

=> d his ful

FILE 'REGISTRY' ENTERED AT 18:36:03 ON 01 SEP 2005

L1 STR
 L2 2 SEA SSS SAM L1
 L3 STR L1
 L4 STR L3
 L5 0 SEA SSS SAM L4
 L6 STR L4
 L7 0 SEA SSS SAM L6
 L8 STR L6
 L9 STR L8
 L10 1 SEA SSS SAM L9
 L11 28 SEA SSS FUL L9

FILE 'HCAPLUS' ENTERED AT 18:46:42 ON 01 SEP 2005

L12 28 SEA ABB=ON L11
 L13 0 SEA ABB=ON L12 AND ?ELECTROLUMIN?
 L14 0 SEA ABB=ON L12 AND EL
 L15 0 SEA ABB=ON L12 AND ?LUMINESC?

*Structure 344
 (see d gne stat
 for structure)
 } 0 for luminesc, so I
 printed L12*

FILE 'REGISTRY' ENTERED AT 18:53:39 ON 01 SEP 2005

L16 STR L9
 L17 0 SEA SSS SAM L16
 L18 0 SEA SSS FUL L16
 L19 STR L16
 L20 0 SEA SSS SAM L19
 L21 0 SEA SSS FUL L19
 L22 STR L19
 L23 50 SEA SSS SAM L22
 L24 STR L16
 L25 0 SEA SSS SAM L24
 L26 1 SEA SSS FUL L24

FILE 'HCAPLUS' ENTERED AT 19:01:09 ON 01 SEP 2005

L27 1 SEA ABB=ON L26

FILE 'REGISTRY' ENTERED AT 19:02:06 ON 01 SEP 2005

L28 STR L24
 L29 50 SEA SSS SAM L28
 L30 34051 SEA SSS FUL L28

FILE 'HCAPLUS' ENTERED AT 19:02:37 ON 01 SEP 2005

L31 16340 SEA ABB=ON L30
 L32 255 SEA ABB=ON L31 AND ?ELECTROLUMIN?
 L33 210 SEA ABB=ON L32 AND (PRD<20031224 OR PD<20031224)

FILE 'REGISTRY' ENTERED AT 19:04:02 ON 01 SEP 2005

L34 STR L28
 L35 0 SEA SSS SAM L34
 L36 15 SEA SSS FUL L34

FILE 'HCAPLUS' ENTERED AT 19:04:59 ON 01 SEP 2005

L37 13 SEA ABB=ON L36
 L38 0 SEA ABB=ON L37 AND ?ELECTROLUMINESC?

FILE 'REGISTRY' ENTERED AT 19:05:43 ON 01 SEP 2005

L39 STR L34
 L40 2 SEA SSS SAM L39

See attached "I que stat's"

Riley 10/822,775

01/09/2005

L41 147 SEA SSS FUL L39

FILE 'HCAPLUS' ENTERED AT 19:08:59 ON 01 SEP 2005

L42 42 SEA ABB=ON L41

L43 9 SEA ABB=ON L42 AND ?ELECTROLUMIN?

9 cit's from CA Plus - St's 1+2

FILE 'REGISTRY' ENTERED AT 19:10:28 ON 01 SEP 2005

L44 STR

L45 10 SEA SSS SAM L44

L46 2214 SEA SSS FUL L44

FILE 'HCAPLUS' ENTERED AT 19:12:32 ON 01 SEP 2005

L47 943 SEA ABB=ON L46

L48 215 SEA ABB=ON L47 AND ?ELECTROLUMIN?

FILE 'REGISTRY' ENTERED AT 19:12:57 ON 01 SEP 2005

L49 STR L46

L50 3 SEA SSS SAM L49

L51 661 SEA SSS FUL L49

FILE 'HCAPLUS' ENTERED AT 19:14:55 ON 01 SEP 2005

L52 292 SEA ABB=ON L51

L53 61 SEA ABB=ON L52 AND ?ELECTROLUMIN?

L54 54 SEA ABB=ON L53 AND (PRD<20031224 OR PD<20031224)

L55 0 SEA ABB=ON L54 AND DYE?

*Structure 5
54 cit's from CA Plus*

FILE 'REGISTRY' ENTERED AT 19:19:04 ON 01 SEP 2005

L56 STR

L57 13 SEA SSS SAM L56

L58 STR L56

L59 8 SEA SSS SAM L58

L60 6356 SEA SSS FUL L58

FILE 'HCAPLUS' ENTERED AT 19:23:34 ON 01 SEP 2005

L61 52853 SEA ABB=ON ELECTROLUMIN?

FILE 'REGISTRY' ENTERED AT 19:23:53 ON 01 SEP 2005

FILE 'HCAPLUS' ENTERED AT 19:24:11 ON 01 SEP 2005

L62 TRA L61 1-20000 RN : 46286 TERMS

FILE 'REGISTRY' ENTERED AT 19:28:46 ON 01 SEP 2005

L63 46281 SEA ABB=ON L62

FILE 'HCAPLUS' ENTERED AT 19:31:16 ON 01 SEP 2005

L64 TRA L61 20001-40000 RN : 36301 TERMS

FILE 'REGISTRY' ENTERED AT 19:36:09 ON 01 SEP 2005

L65 36297 SEA ABB=ON L64

FILE 'HCAPLUS' ENTERED AT 19:38:22 ON 01 SEP 2005

L66 TRA L61 40001-52853 RN : 5979 TERMS

FILE 'REGISTRY' ENTERED AT 19:41:05 ON 01 SEP 2005

L67 5979 SEA ABB=ON L66

L68 79447 SEA ABB=ON L63 OR L65 OR L67

L69 0 SEA SUB=L68 SSS SAM L58

L70 2 SEA SUB=L68 SSS FUL L58

*To get Structure
for #6 to run,
I had to transfer
records pertaining
to electrolumin
to Registry &
search on those
as a subset.*

FILE 'HCAPLUS' ENTERED AT 19:42:33 ON 01 SEP 2005
L71 109 SEA ABB=ON L70
L72 0 SEA ABB=ON L71 AND ?PHOTOLUMIN?

FILE 'REGISTRY' ENTERED AT 19:43:42 ON 01 SEP 2005
L73 STR L48
L74 0 SEA SUB=L68 SSS SAM L73
L75 7 SEA SUB=L68 SSS FUL L73

FILE 'HCAPLUS' ENTERED AT 19:44:51 ON 01 SEP 2005
L76 590 SEA ABB=ON L75
L77 6 SEA ABB=ON L76 AND ?ELECTROLUMIN?

*Structure 6
6 cit's from CA Plus*

FILE HOME

FILE REGISTRY

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 31 AUG 2005 HIGHEST RN 862246-83-1
DICTIONARY FILE UPDATES: 31 AUG 2005 HIGHEST RN 862246-83-1

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

Please note that search-term pricing does apply when conducting SmartSELECT searches.

*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*

Structure search iteration limits have been increased. See HELP SLIMITS for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

FILE HCAPLUS

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FILE COVERS 1907 - 1 Sep 2005 VOL 143 ISS 10

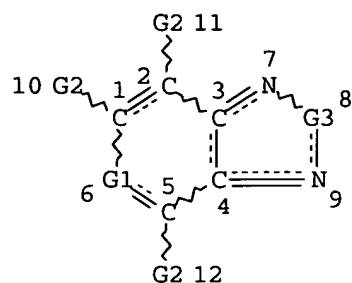
FILE LAST UPDATED: 31 Aug 2005 (20050831/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate
substance identification.

=> d que stat 143
L39 STR

Structures 1 & 2



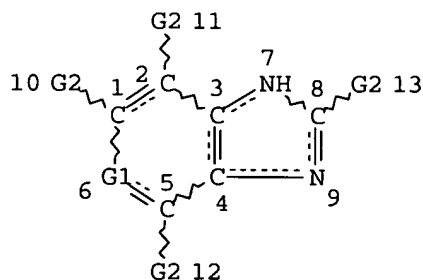
VAR G1=C/N
VAR G2=C/AR/CY/HY
VAR G3=N/S/O/SE/B
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 12

STEREO ATTRIBUTES: NONE

L41 147 SEA FILE=REGISTRY SSS FUL L39
L42 42 SEA FILE=HCAPLUS ABB=ON L41
L43 9 SEA FILE=HCAPLUS ABB=ON L42 AND ?ELECTROLUMIN?

=> d que stat 112
L9 STR



Structures 3 & 4

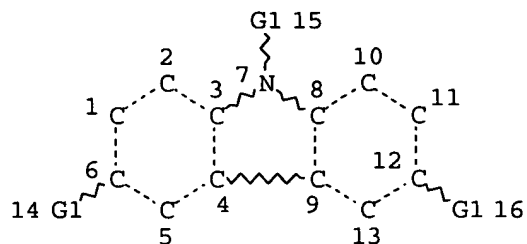
VAR G1=C/N
VAR G2=AK/AR/CY/HY
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 13

STEREO ATTRIBUTES: NONE

L11 28 SEA FILE=REGISTRY SSS FUL L9
L12 28 SEA FILE=HCAPLUS ABB=ON L11

=> d que stat 154
L49 STR



Structure 5

G2 17

VAR G1=AK/AR/CY/HY
VAR G2=H/X/OH/CN/SO2
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

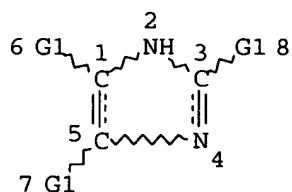
GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 17

STEREO ATTRIBUTES: NONE

L51 661 SEA FILE=REGISTRY SSS FUL L49
L52 292 SEA FILE=HCAPLUS ABB=ON L51
L53 61 SEA FILE=HCAPLUS ABB=ON L52 AND ?ELECTROLUMIN?
L54 54 SEA FILE=HCAPLUS ABB=ON L53 AND (PRD<20031224 OR PD<20031224)

=> d que stat 177

L61 52853 SEA FILE=HCAPLUS ABB=ON ELECTROLUMIN?
L62 TRANSFER L61 1-20000 RN : 46286 TERMS
L63 46281 SEA FILE=REGISTRY ABB=ON L62
L64 TRANSFER L61 20001-40000 RN : 36301 TERMS
L65 36297 SEA FILE=REGISTRY ABB=ON L64
L66 TRANSFER L61 40001-52853 RN : 5979 TERMS
L67 5979 SEA FILE=REGISTRY ABB=ON L66
L68 79447 SEA FILE=REGISTRY ABB=ON L63 OR L65 OR L67
L73 STR



Structure 6

VAR G1=AR/AK/CY/HY
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 8

STEREO ATTRIBUTES: NONE

L75 7 SEA FILE=REGISTRY SUB=L68 SSS FUL L73

L76 590 SEA FILE=HCAPLUS ABB=ON L75

L77 6 SEA FILE=HCAPLUS ABB=ON L76 AND ?ELECTROLUMIN?

=> d ibib abs hitstr 143 1-9

L43 ANSWER 1 OF 9 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:589313 HCAPLUS

DOCUMENT NUMBER: 143:93575

TITLE: Method for detecting biomolecule using labeling dye or labeling kit

INVENTOR(S): Isobe, Shinichiro

PATENT ASSIGNEE(S): Mataka, Shuntaro, Japan; Takenaka, Shigeori

SOURCE: PCT Int. Appl., 67 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005062046	A1	20050707	WO 2004-JP19215	20041222
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2005208026	A2	20050804	JP 2004-105187	20040331
US 2005181380	A1	20050818	US 2004-822775	20040413
PRIORITY APPLN. INFO.:			JP 2003-427268	A 20031224
			JP 2004-105187	A 20040331

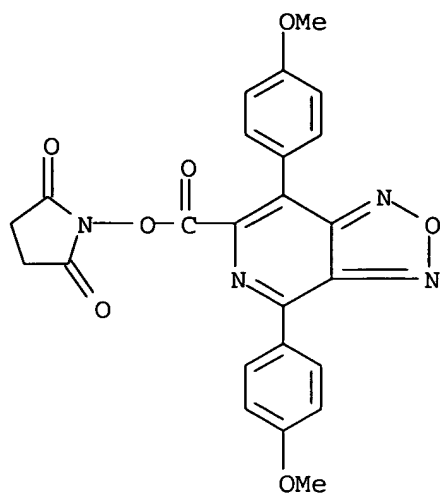
AB A method for detecting a biomol. is provided, in which a biopolymer is reacted with an organic EL (**electroluminescent**) dye, and the fluorescence of the biopolymer sample labeled with the organic EL dye is measured. By using an organic EL dye as a labeling dye, a biopolymer can be detected with higher sensitivity at lower cost.

IT 855781-84-9P

RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(method for detecting biomol. using **electroluminescent** labeling dye)

RN 855781-84-9 HCAPLUS

CN 2,5-Pyrrolidinedione, 1-[[[4,7-bis(4-methoxyphenyl)[1,2,5]oxadiazolo[3,4-c]pyridin-6-yl]carbonyl]oxy]- (9CI) (CA INDEX NAME)

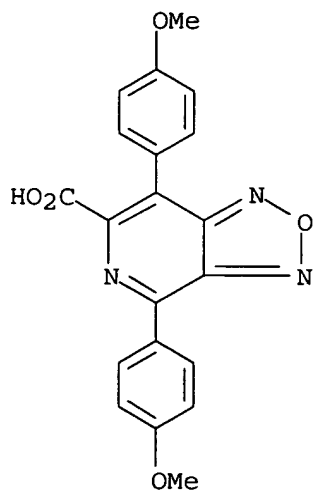


IT 855781-83-8P 857048-00-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(method for detecting biomol. using **electroluminescent**
labeling dye)

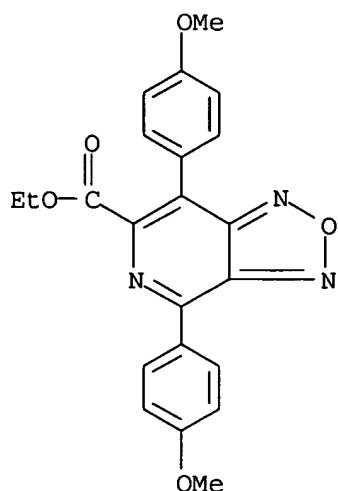
RN 855781-83-8 HCAPLUS

CN [1,2,5]Oxadiazolo[3,4-c]pyridine-6-carboxylic acid, 4,7-bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



RN 857048-00-1 HCAPLUS

CN [1,2,5]Oxadiazolo[3,4-c]pyridine-6-carboxylic acid, 4,7-bis(4-methoxyphenyl)-, ethyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L43 ANSWER 2 OF 9 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:589130 HCAPLUS

DOCUMENT NUMBER: 143:86448

TITLE: Single-layer organic el device

INVENTOR(S): Isobe, Shinichiro

PATENT ASSIGNEE(S): Mataka, Shuntaro, Japan; Takenaka, Shigeori

SOURCE: PCT Int. Appl., 26 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005061657	A1	20050707	WO 2004-JP19211	20041222
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			

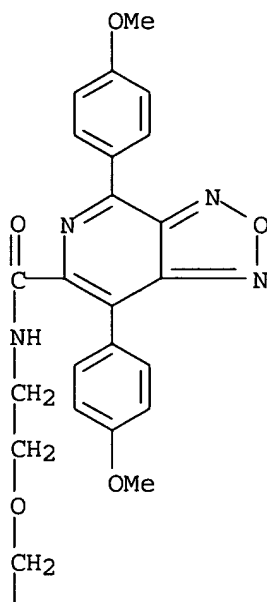
PRIORITY APPLN. INFO.: JP 2003-427275 A 20031224

AB Disclosed is an organic EL dye enabling to provide an organic EL device which is

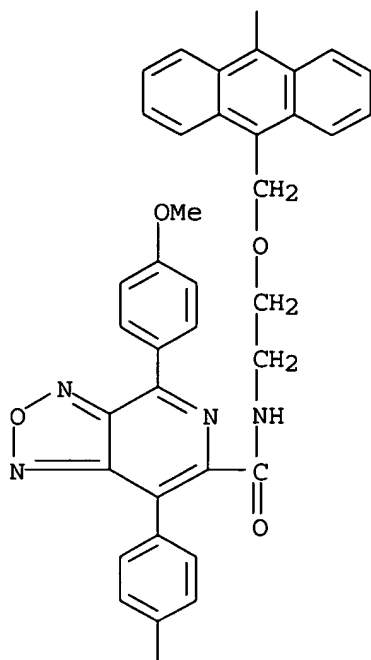
capable of emitting a light at a low voltage even when it has a single-layer structure. Also disclosed is an organic EL device using such an organic EL dye. The organic EL dye is represented by the general formula: (Y-L)_nX_m where x is an n-valent charge-transporting group, Y is a light-emitting group, L is a linking group bonding the charge-transporting group and the light-emitting group, and m and n are resp. an integer not

IT 855781-85-0P 855781-87-2P
RL: DEV (Device component use); SPN (Synthetic preparation); PREP
(Preparation); USES (Uses)
(single-layer organic el device)
RN 855781-85-0 HCAPLUS
CN [1,2,5]Oxadiazolo[3,4-c]pyridine-6-carboxamide, N,N'-[9,10-
anthracenediylbis[methylene(oxy-2,1-ethanediyl)]]bis[4,7-bis(4-
methoxyphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

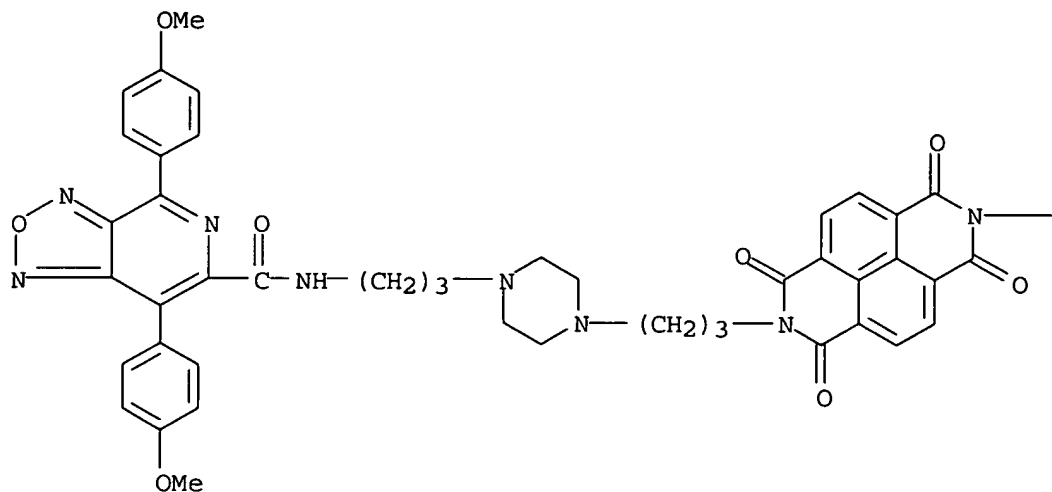


PAGE 3-A

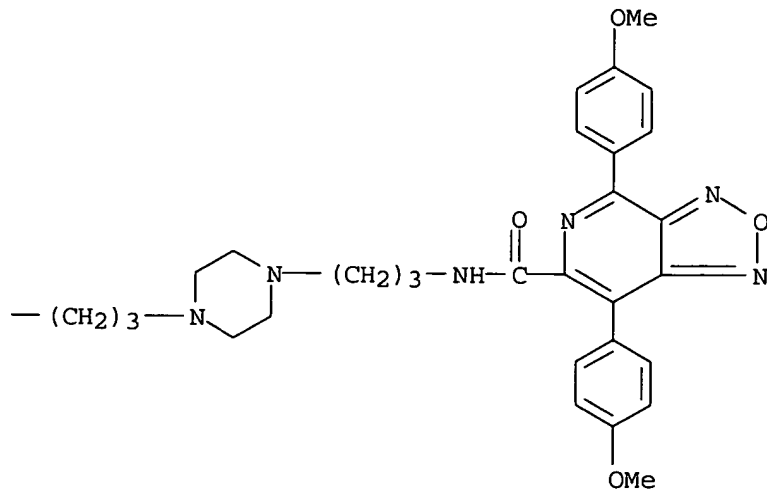


RN 855781-87-2 HCAPLUS
 CN [1,2,5]Oxadiazolo[3,4-c]pyridine-6-carboxamide, N,N'-[(1,3,6,8-tetrahydro-1,3,6,8-tetraoxobenzo[1,2,5]oxadiazolo[3,4-c]pyridine-2,7-diyl)bis(3,1-propanediyl-4,1-piperazinediyl-3,1-propanediyl)]bis[4,7-bis(4-methoxyphenyl)- (9CI)
 (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

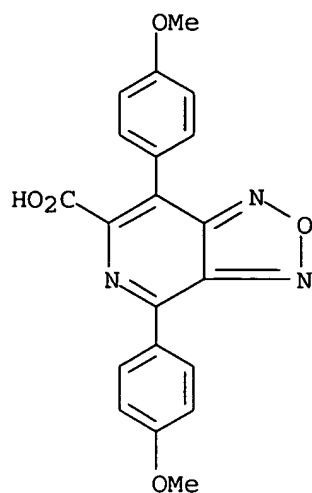


IT 855781-83-8

RL: RCT (Reactant); RACT (Reactant or reagent)
(single-layer organic el device)

RN 855781-83-8 HCAPLUS

CN [1,2,5]Oxadiazolo[3,4-c]pyridine-6-carboxylic acid, 4,7-bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)

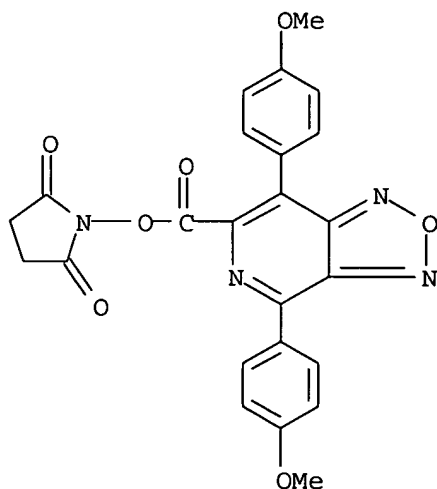


IT 855781-84-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(single-layer organic el device)

RN 855781-84-9 HCAPLUS

CN 2,5-Pyrrolo[1,2-b]pyridine, 1-[[[4,7-bis(4-methoxyphenyl)[1,2,5]oxadiazolo[3,4-c]pyridin-6-yl]carbonyl]oxy]- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L43 ANSWER 3 OF 9 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:20671 HCAPLUS

DOCUMENT NUMBER: 140:94048

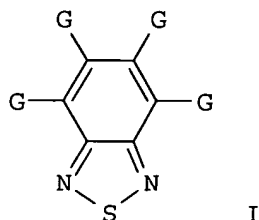
TITLE: 2,1,3-benzothiadiazoles for use as electronic active components

INVENTOR(S): Stoessel, Philipp; Parham, Amir; Vestweber, Horst; Spreitzer, Hubert

PATENT ASSIGNEE(S): Covion Organic Semiconductors Gmbh, Germany

SOURCE: PCT Int. Appl., 52 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004002970	A1	20040108	WO 2003-EP6287	20030614
W: CN, JP, KR, US				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
DE 10229370	A1	20040115	DE 2002-10229370	20020629
EP 1519929	A1	20050406	EP 2003-761466	20030614
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, SK				
PRIORITY APPLN. INFO.:			DE 2002-10229370	A 20020629
			WO 2003-EP6287	W 20030614
OTHER SOURCE(S):		MARPAT 140:94048		
GI				



AB Compds. are described which do not include macrocycles and which do include ≥ 1 structural unit described by the general formula I (G = H, F, and/or organic residues) having an idealized point group of Sn, Cn, Cnv, Cnh, Dn, Dnh, or Dnd (n=2,3,4,5, or 6), a mol. weight in the range 450-5000 g/mol, and a m.p. $>190^\circ$. Use of the compds. in **electroluminescent** devices (e.g., as active materials, in electron transport layers, or in hole-blocking layers), as electron transport materials for electrophotog., as electron acceptors or electron transport materials in photovoltaic devices such as organic photodetectors or organic solar cells, as charge transport materials in organic integrated circuits, as charge transport materials or dopants in organic FETs and organic thin-film transistors, and in organic solid-state lasers.

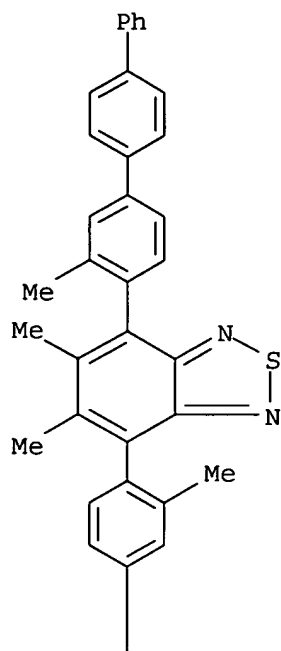
IT **643007-09-4P**

RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (benzothiadiazole derivs. and their use in electronic devices)

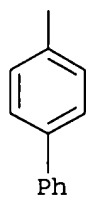
RN 643007-09-4 HCAPLUS

CN 2,1,3-Benzothiadiazole, 5,6-dimethyl-4,7-bis(3-methyl[1,1':4',1''-terphenyl]-4-yl)- (9CI) (CA INDEX NAME)

PAGE 1-A



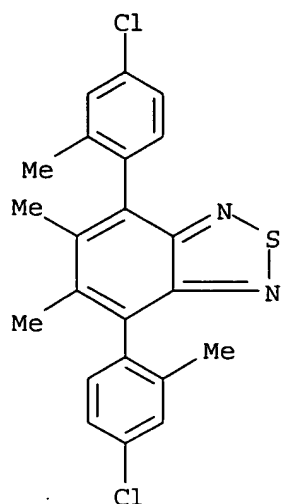
PAGE 2-A

IT **643007-03-8P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(benzothiadiazole derivs. and their use in electronic devices)

RN 643007-03-8 HCAPLUS

CN 2,1,3-Benzothiadiazole, 4,7-bis(4-chloro-2-methylphenyl)-5,6-dimethyl-
(9CI) (CA INDEX NAME)



REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L43 ANSWER 4 OF 9 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:913158 HCAPLUS

DOCUMENT NUMBER: 139:388293

TITLE: New organic compounds for **electroluminescence** and organic **electroluminescent** devices using the same

INVENTOR(S): Kim, Ji-Eun; Son, Se-Hwan; Bae, Jae-Soon; Lee, Youn-Gu; Kim, Kong-Kyeum; Lee, Jae-Chol; Jang, Jun-Gi; Im, Sung-Gap

PATENT ASSIGNEE(S): LG Chem, Ltd., S. Korea

SOURCE: PCT Int. Appl., 145 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003095445	A1	20031120	WO 2003-KR899	20030506
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
KR 2003087522	A	20031114	KR 2003-10439	20030219
US 2004067387	A1	20040408	US 2003-431349	20030506
CN 1556803	A	20041222	CN 2003-801106	20030506
EP 1501821	A1	20050202	EP 2003-723417	20030506
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				

PRIORITY APPLN. INFO.:

KR 2002-25084	A	20020507
KR 2003-10439	A	20030219
WO 2003-KR899	W	20030506

OTHER SOURCE(S): MARPAT 139:388293

AB Disclosed is a novel group of compds. having a general structure of anthracene body substituted with at least one thiophenyl group, which can be further substituted with various substituent groups. These new compds. are generally compatible with organic **electroluminescence**. Also disclosed are organic **electroluminescent** devices and method of making the same. The organic **electroluminescent** devices include at least one of the compds. in various layers thereof. Organic **electroluminescent** devices employing the new compds. in their light-emitting layers show outstanding stability.

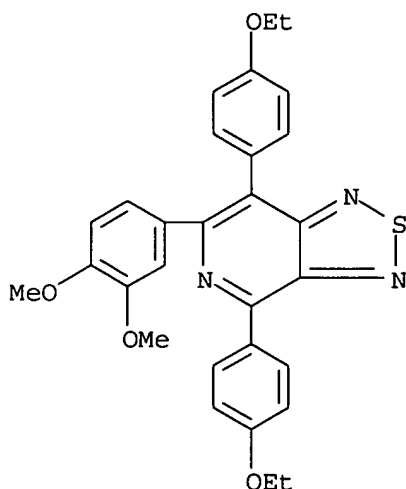
IT 121239-82-5

RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)

(dopant; preparation of new organic compds. for **electroluminescence** and organic **electroluminescent** devices)

RN 121239-82-5 HCAPLUS

CN [1,2,5]Thiadiazolo[3,4-c]pyridine, 6-(3,4-dimethoxyphenyl)-4,7-bis(4-ethoxyphenyl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L43 ANSWER 5 OF 9 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:353897 HCAPLUS

DOCUMENT NUMBER: 138:360197

TITLE: Organic **electroluminescent** device

INVENTOR(S): Mataga, Shuntaro; Thiemann, Thies; Soeda, Yasuhiko; Kaneko, Shinichiro; Yatsunami, Ryuichi; Komatsu, Takahiro; Sakagami, Megumi

PATENT ASSIGNEE(S): Matsushita Electric Industrial Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.

CODEN: JKXXAF

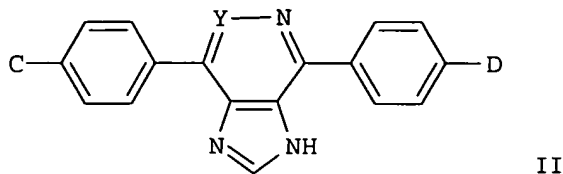
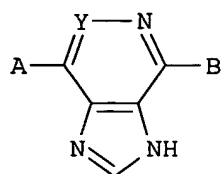
DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2003133072	A2	20030509	JP 2001-327275	20011025
PRIORITY APPLN. INFO.:			JP 2001-327275	20011025
OTHER SOURCE(S):	MARPAT 138:360197			
GI				



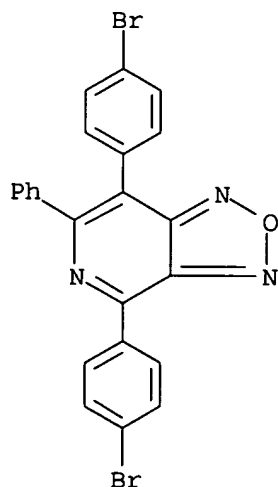
AB The invention relates to a blue or white light-emitting organic **electroluminescent** device, suited for use in making a display device and a back light, comprising an organic **electroluminescent** layer containing a compound represented by I or II [A and B = aromatic hydrocarbon group; C and D = aromatic hydrocarbon and heterocyclic groups; and Y = carbon atom that may have a substituent].

IT **519182-44-6P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(in preparation of blue or white-emitting; organic **electroluminescent** device)

RN 519182-44-6 HCAPLUS

CN [1,2,5]Oxadiazolo[3,4-c]pyridine, 4,7-bis(4-bromophenyl)-6-phenyl- (9CI)
(CA INDEX NAME)



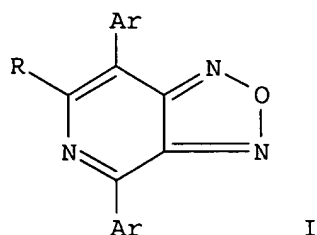
L43 ANSWER 6 OF 9 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:70704 HCAPLUS

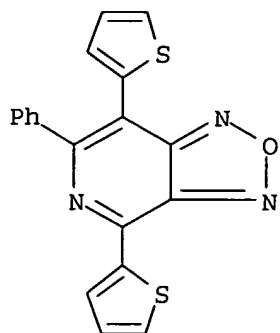
DOCUMENT NUMBER: 136:355194

TITLE: Preparation of 4,7-dihetaryl-1,2,5-oxadiazolo[3,4-

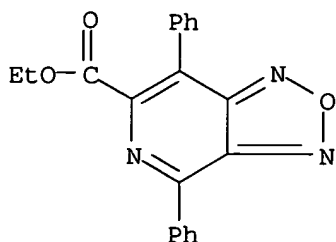
AUTHOR(S) : c]pyridines as red fluorescent materials
 Gorohmaru, Hideki; Thiemann, Thies; Sawada, Tsuyoshi;
 Takahashi, Kazufumi; Nishi-i, Katsumi; Ochi, Naoko;
 Kosugi, Yoshio; Mataka, Shuntaro
 CORPORATE SOURCE: Graduate School of Engineering Sciences, Kyushu
 University, Kasuga, 816-8580, Japan
 SOURCE: Heterocycles (2002), 56(1-2), 421-431
 CODEN: HTCYAM; ISSN: 0385-5414
 PUBLISHER: Japan Institute of Heterocyclic Chemistry
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S) : CASREACT 136:355194
 GI



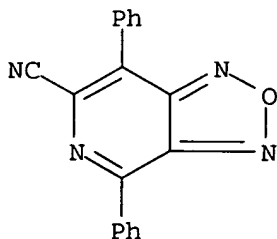
AB 1,2,5-Oxadiazolo[3,4-c]pyridines (I; Ar = some or all of 2-thienyl,
 2-furanyl, 3-thienyl, 3-benzo[b]thienyl, 5-methyl-2-thienyl,
 5-bromo-2-thienyl, 2,5-dimethyl-3-thienyl; R = cyano (6), CO₂Et (7), Ph
 (8), nil (10)) were prepared, in quest of a red fluorescent material useful
 in OLED devices. These compds. emit fluorescence of orange to red color
 in solution and in the solid state. 6-Cyano derivs. (6) show a higher
 quantum yield than the corresponding esters (7), the Ph derivative (8), and
 the unsubstituted compound (10). Red EL light at $\lambda = 680$ nm was
 obtained in an OLED device when Et 4,7-bis(5-phenylthien-2-yl)-1,2,5-
 oxadiazolo[3,4-c]pyridine-6-carboxylate was used as a dopant emitter. The
 crystal and mol. structures of 4,7-bis(2-thienyl)-6-cyano-1,2,5-
 oxadiazolo[3,4-c]pyridine were determined by x-ray crystallog.
 IT **421555-10-4**, 4,7-Bis(2-thienyl)-6-phenyl-1,2,5-oxadiazolo[3,4-
 c]pyridine
 RL: PRP (Properties)
 (absorption and emission spectra of)
 RN 421555-10-4 HCAPLUS
 CN [1,2,5]Oxadiazolo[3,4-c]pyridine, 6-phenyl-4,7-di-2-thienyl- (9CI) (CA
 INDEX NAME)



IT **76593-55-0**, Ethyl 4,7-diphenyl-1,2,5-oxadiazolo[3,4-c]pyridine-6-carboxylate **76593-57-2**, 6-Cyano-4,7-diphenyl-1,2,5-oxadiazolo[3,4-c]pyridine
 RL: PRP (Properties)
 (comparison; heteroaryl-substituted oxadiazolopyridines as red fluorescent substances)
 RN 76593-55-0 HCAPLUS
 CN [1,2,5]Oxadiazolo[3,4-c]pyridine-6-carboxylic acid, 4,7-diphenyl-, ethyl ester (9CI) (CA INDEX NAME)

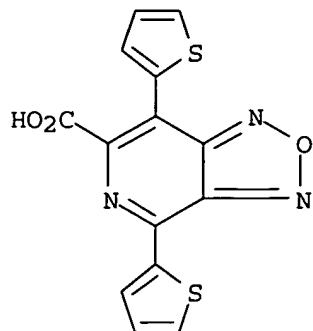


RN 76593-57-2 HCAPLUS
 CN [1,2,5]Oxadiazolo[3,4-c]pyridine-6-carbonitrile, 4,7-diphenyl- (9CI) (CA INDEX NAME)

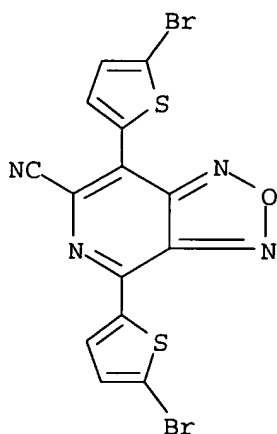


IT **421555-11-5P**, 4,7-Bis(2-thienyl)-1,2,5-oxadiazolo[3,4-c]pyridine-6-carboxylic acid
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and thermal decarboxylation of)
 RN 421555-11-5 HCAPLUS
 CN [1,2,5]Oxadiazolo[3,4-c]pyridine-6-carboxylic acid, 4,7-di-2-thienyl-

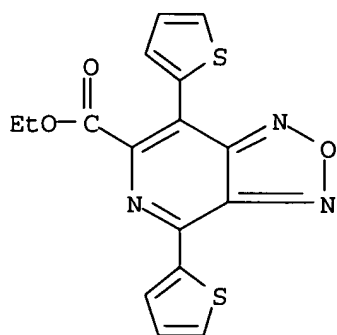
(9CI) (CA INDEX NAME)



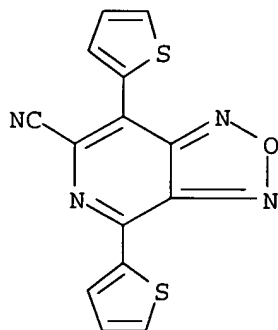
IT **421555-26-2P**, 4,7-Bis(5-bromothiophen-2-yl)-6-cyano-1,2,5-oxadiazolo[3,4-c]pyridine
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation as red fluorescent substance and Suzuki coupling with phenylboronic acid)
 RN 421555-26-2 HCAPLUS
 CN [1,2,5]Oxadiazolo[3,4-c]pyridine-6-carbonitrile, 4,7-bis(5-bromo-2-thienyl)- (9CI) (CA INDEX NAME)



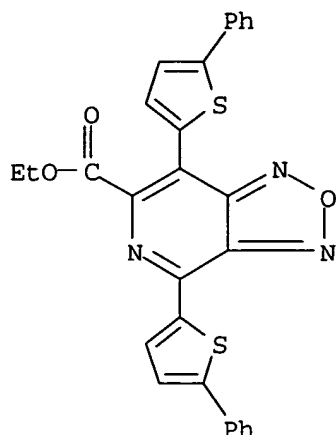
IT **421555-29-5P**, Ethyl 4,7-bis(2-thienyl)-1,2,5-oxadiazolo[3,4-c]pyridine-6-carboxylate
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation as red fluorescent substance and base hydrolysis of)
 RN 421555-29-5 HCAPLUS
 CN [1,2,5]Oxadiazolo[3,4-c]pyridine-6-carboxylic acid, 4,7-di-2-thienyl-, ethyl ester (9CI) (CA INDEX NAME)



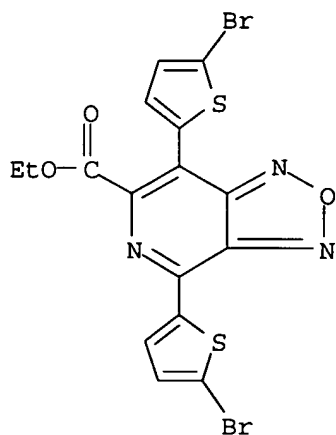
IT **421555-21-7P**, 4,7-Bis(2-thienyl)-6-cyano-1,2,5-oxadiazolo[3,4-c]pyridine
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation as red fluorescent substance and crystal structure of)
 RN 421555-21-7 HCAPLUS
 CN [1,2,5]Oxadiazolo[3,4-c]pyridine-6-carbonitrile, 4,7-di-2-thienyl- (9CI)
 (CA INDEX NAME)



IT **421555-34-2P**, Ethyl 4,7-bis(5-phenylthien-2-yl)-1,2,5-oxadiazolo[3,4-c]pyridine-6-carboxylate
 RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (preparation as red fluorescent substance and use as dopant emitter in organic LED)
 RN 421555-34-2 HCAPLUS
 CN [1,2,5]Oxadiazolo[3,4-c]pyridine-6-carboxylic acid, 4,7-bis(5-phenyl-2-thienyl)-, ethyl ester (9CI) (CA INDEX NAME)



IT **421555-32-0P**, Ethyl 4,7-bis(5-bromothien-2-yl)-1,2,5-oxadiazolo[3,4-c]pyridine-6-carboxylate
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation as red fluorescent substance, Suzuki coupling with phenylboronic acid and metathesis with cuprous cyanide)
 RN 421555-32-0 HCAPLUS
 CN [1,2,5]Oxadiazolo[3,4-c]pyridine-6-carboxylic acid, 4,7-bis(5-bromo-2-thienyl)-, ethyl ester (9CI) (CA INDEX NAME)



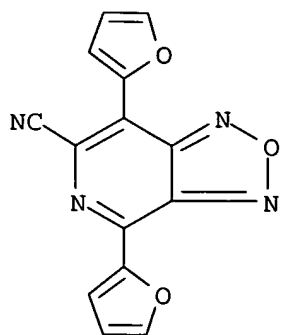
IT **421555-22-8P**, 4,7-Bis(2-furyl)-6-cyano-1,2,5-oxadiazolo[3,4-c]pyridine **421555-23-9P**, 4,7-Bis(3-thienyl)-6-cyano-1,2,5-oxadiazolo[3,4-c]pyridine **421555-24-0P**, 4,7-Bis(benzo[b]thien-3-yl)-6-cyano-1,2,5-oxadiazolo[3,4-c]pyridine **421555-25-1P**, 4,7-Bis(5-methylthien-2-yl)-6-cyano-1,2,5-oxadiazolo[3,4-c]pyridine **421555-27-3P**, 4,7-Bis(2,5-dimethylthien-3-yl)-6-cyano-1,2,5-oxadiazolo[3,4-c]pyridine **421555-28-4P**, 4,7-Bis(5-phenylthien-2-yl)-6-cyano-1,2,5-oxadiazolo[3,4-c]pyridine **421555-30-8P**, Ethyl 4,7-bis(2-furyl)-1,2,5-oxadiazolo[3,4-c]pyridine-6-carboxylate **421555-31-9P**, Ethyl 4,7-bis(5-methylthien-2-yl)-1,2,5-oxadiazolo[3,4-c]pyridine-6-carboxylate **421555-33-1P**, Ethyl 4,7-bis(2,5-dimethylthien-3-yl)-1,2,5-oxadiazolo[3,4-c]pyridine-6-carboxylate **421555-35-3P**, Ethyl 4,7-bis(5-cyanothien-2-yl)-1,2,5-

oxadiazolo[3,4-c]pyridine-6-carboxylate

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation of heteroaryl-substituted oxadiazolopyridines as red
fluorescent substances)

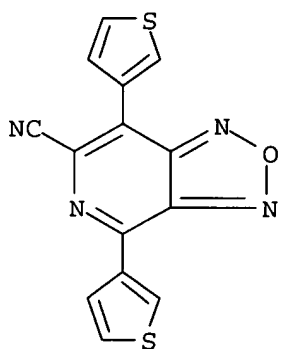
RN 421555-22-8 HCAPLUS

CN [1,2,5]Oxadiazolo[3,4-c]pyridine-6-carbonitrile, 4,7-di-2-furanyl- (9CI)
(CA INDEX NAME)



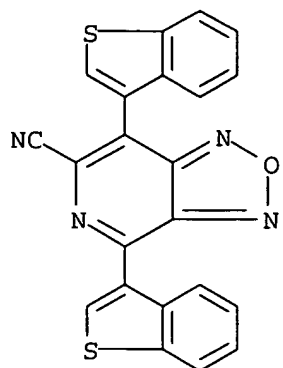
RN 421555-23-9 HCAPLUS

CN [1,2,5]Oxadiazolo[3,4-c]pyridine-6-carbonitrile, 4,7-di-3-thienyl- (9CI)
(CA INDEX NAME)



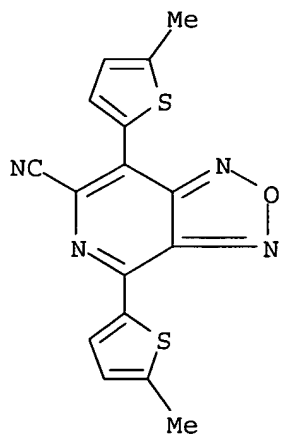
RN 421555-24-0 HCAPLUS

CN [1,2,5]Oxadiazolo[3,4-c]pyridine-6-carbonitrile, 4,7-bis(benzo[b]thien-3-yl)- (9CI) (CA INDEX NAME)



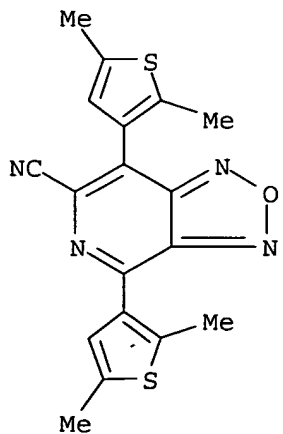
RN 421555-25-1 HCAPLUS

CN [1,2,5]Oxadiazolo[3,4-c]pyridine-6-carbonitrile, 4,7-bis(5-methyl-2-thienyl)- (9CI) (CA INDEX NAME)

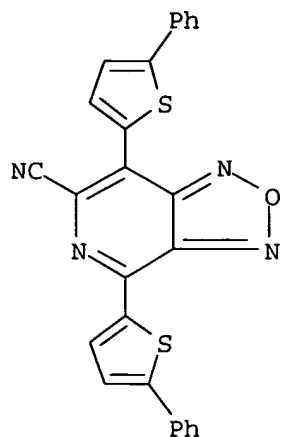


RN 421555-27-3 HCAPLUS

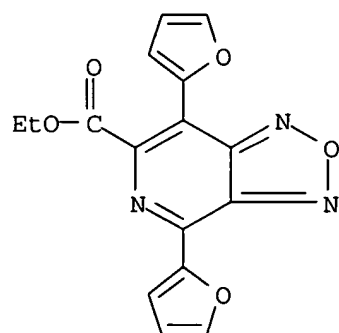
CN [1,2,5]Oxadiazolo[3,4-c]pyridine-6-carbonitrile, 4,7-bis(2,5-dimethyl-3-thienyl)- (9CI) (CA INDEX NAME)



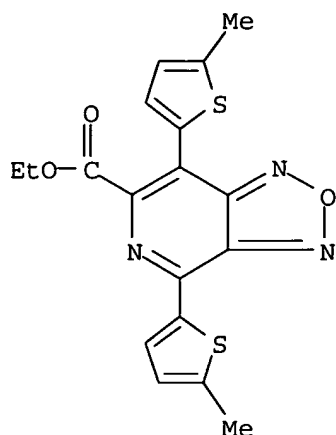
RN 421555-28-4 HCAPLUS
CN [1,2,5]Oxadiazolo[3,4-c]pyridine-6-carbonitrile, 4,7-bis(5-phenyl-2-thienyl)- (9CI) (CA INDEX NAME)



RN 421555-30-8 HCAPLUS
CN [1,2,5]Oxadiazolo[3,4-c]pyridine-6-carboxylic acid, 4,7-di-2-furanyl-, ethyl ester (9CI) (CA INDEX NAME)

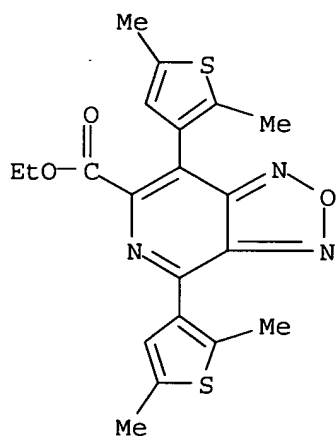


RN 421555-31-9 HCAPLUS
CN [1,2,5]Oxadiazolo[3,4-c]pyridine-6-carboxylic acid, 4,7-bis(5-methyl-2-thienyl)-, ethyl ester (9CI) (CA INDEX NAME)



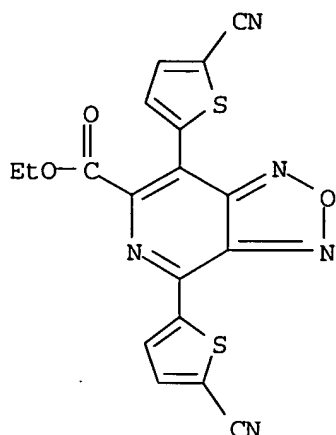
RN 421555-33-1 HCAPLUS

CN [1,2,5]Oxadiazolo[3,4-c]pyridine-6-carboxylic acid, 4,7-bis(2,5-dimethyl-3-thienyl)-, ethyl ester (9CI) (CA INDEX NAME)



RN 421555-35-3 HCAPLUS

CN [1,2,5]Oxadiazolo[3,4-c]pyridine-6-carboxylic acid, 4,7-bis(5-cyano-2-thienyl)-, ethyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L43 ANSWER 7 OF 9 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1993:417624 HCAPLUS

DOCUMENT NUMBER: 119:17624

TITLE: Organic **electroluminescent** element

INVENTOR(S): Tashiro, Masashi; Mataga, Shuntaro; Sato, Yoshiharu

PATENT ASSIGNEE(S): Mitsubishi Kasei Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

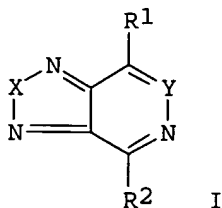
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04308689	A2	19921030	JP 1991-75298	19910408
PRIORITY APPLN. INFO.:			JP 1991-75298	19910408
OTHER SOURCE(S):	MARPAT	119:17624		

GI



AB An **electroluminescent** element comprises an anode, an organic hole- and an organic electron-transport layer, and a cathode, wherein the transport layer(s) is doped with a phosphor I [R1,2 = (substituted) aromatic hydrocarbyl; X = N, S, O, Se, derivs. thereof; Y = N, C, derivs. thereof]. The element typically is yellow-emitting and is suited for use in a large-area display.

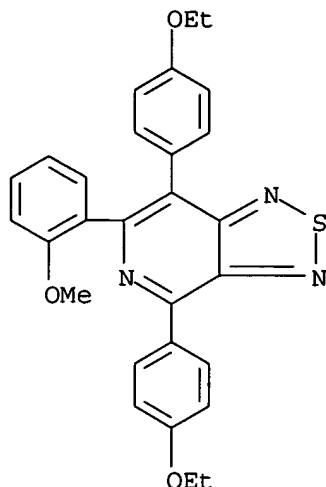
IT 121239-80-3

RL: PRP (Properties)

(phosphors, doped in electron-transport layers, in yellow-emitting **electroluminescent** devices)

RN 121239-80-3 HCAPLUS

CN [1,2,5]Thiadiazolo[3,4-c]pyridine, 4,7-bis(4-ethoxyphenyl)-6-(2-methoxyphenyl)- (9CI) (CA INDEX NAME)



L43 ANSWER 8 OF 9 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1991:617798 HCAPLUS

DOCUMENT NUMBER: 115:217798

TITLE: **Electroluminescent** mechanism of organic multilayer thin film devices

AUTHOR(S): Adachi, Chihaya; Tsutsui, Tetsuo; Saito, Shogo

CORPORATE SOURCE: Grad. Sch. Eng. Sci., Kyushu Univ., Fukuoka, 816, Japan

SOURCE: Optoelectronics--Devices and Technologies (1991), 6(1), 25-36

CODEN: ODTEEG; ISSN: 0912-5434

DOCUMENT TYPE: Journal

LANGUAGE: English

AB High performance organic **electroluminescent** (EL) devices which are composed of organic thin multilayer films are described. The EL devices were classified into 3 categories and the optimization of EL cell structures was performed from the viewpoint of the electronic properties of emitter layers. The position of the emission sites in 3 different types of EL cells was determined by a doping method, and 2 important aspects in the EL mechanism for high luminance were pointed out. High luminance was derived from the confinement of charge carriers and mol. excitons inside emitter layers. Moreover, effective confinement of charge carriers and mol. excitons within a mol.-size area was achieved in the case of double heterostructures.

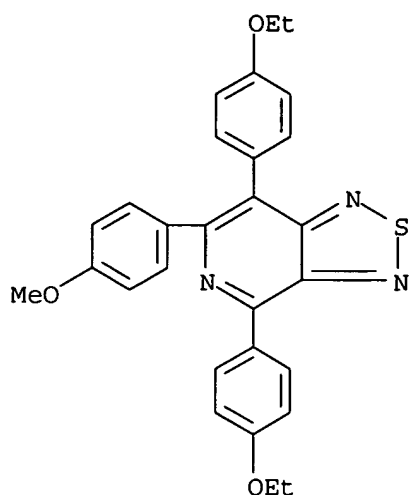
IT 122022-11-1

RL: PRP (Properties)

(dopant, in organic **electroluminescent** device)

RN 122022-11-1 HCAPLUS

CN [1,2,5]Thiadiazolo[3,4-c]pyridine, 4,7-bis(4-ethoxyphenyl)-6-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



L43 ANSWER 9 OF 9 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1991:546246 HCAPLUS

DOCUMENT NUMBER: 115:146246

TITLE: Organic **electroluminescent** device

INVENTOR(S): Tashiro, Masashi; Mataga, Shuntaro; Takahashi, Kazufumi; Saito, Shogo; Tsutsui, Tetsuo; Adachi, Chihaya; Sato, Yoshiharu; Maeda, Shuichi

PATENT ASSIGNEE(S): Mitsubishi Kasei Corp., Japan

SOURCE: Eur. Pat. Appl., 37 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

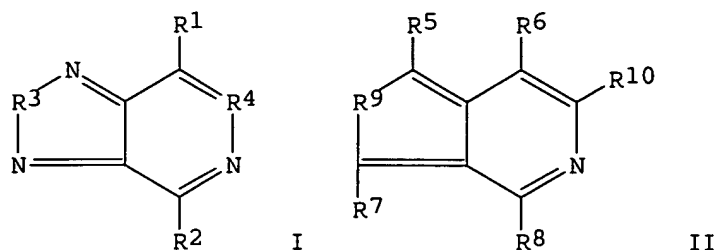
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 406762	A2	19910109	EP 1990-112589	19900702
EP 406762	A3	19911106		
EP 406762	B1	19940928		
R: DE, FR, GB, NL				
JP 03037292	A2	19910218	JP 1989-172176	19890704
JP 03037293	A2	19910218	JP 1989-172177	19890704
JP 03203982	A2	19910905	JP 1989-343982	19891228
US 5059863	A	19911022	US 1990-547147	19900703
PRIORITY APPLN. INFO.:			JP 1989-172176	A 19890704
			JP 1989-172177	A 19890704
			JP 1989-343982	A 19891228

OTHER SOURCE(S): MARPAT 115:146246

GI



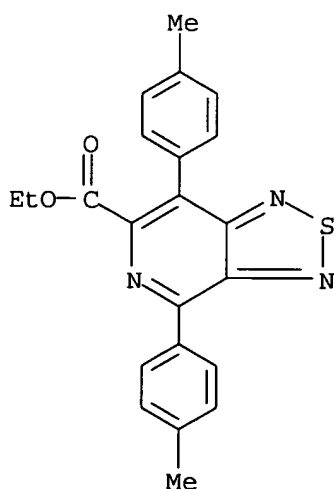
AB An organic **electroluminescent** device, comprising an organic hole-injection transport layer and an organic luminescent layer formed between 2 electrodes, is claimed in which the luminescent layer contains a compound described by the general formula I (R1, R2 = an optionally substituted aromatic hydrocarbon group; R3 = S, O, Se, or N optionally bearing a substituent; R4 = N or C optionally bearing a substituent), a compound described by the general formula II (R5, R6, R7, R8 = an aromatic hydrocarbon group optionally bearing a substituent; R9 = S, O, Se, or N which may have a substituent; R10 = H, amido, cyano, an ester group, alkyl, carboxyl, an optionally substituted aromatic hydrocarbon group, or an optionally substituted aromatic heterocyclic group), or a naphthyridine derivative

IT 72624-45-4 76593-53-8 76593-57-2
 85731-44-8 85731-47-1 121239-82-5
 121239-83-6 122022-11-1 136124-44-2
 136124-45-3 136124-46-4 136124-47-5
 136124-48-6 136145-92-1

RL: DEV (Device component use); USES (Uses)
 (electroluminescent devices containing)

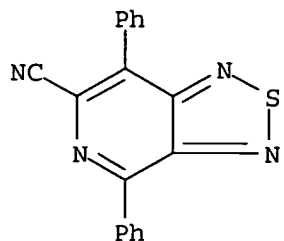
RN 72624-45-4 HCAPLUS

CN [1,2,5]Thiadiazolo[3,4-c]pyridine-6-carboxylic acid, 4,7-bis(4-methylphenyl)-, ethyl ester (9CI) (CA INDEX NAME)



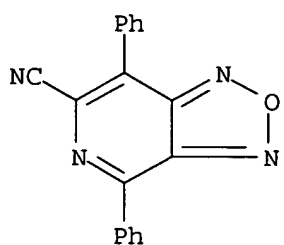
RN 76593-53-8 HCAPLUS

CN [1,2,5]Thiadiazolo[3,4-c]pyridine-6-carbonitrile, 4,7-diphenyl- (9CI) (CA INDEX NAME)



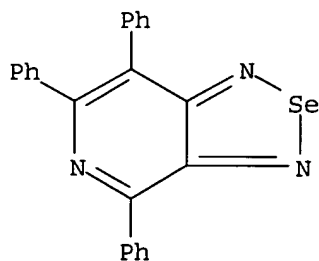
RN 76593-57-2 HCAPLUS

CN [1,2,5]Oxadiazolo[3,4-c]pyridine-6-carbonitrile, 4,7-diphenyl- (9CI) (CA INDEX NAME)



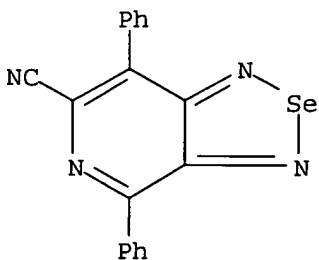
RN 85731-44-8 HCAPLUS

CN [1,2,5]Selenadiazolo[3,4-c]pyridine, 4,6,7-triphenyl- (9CI) (CA INDEX NAME)



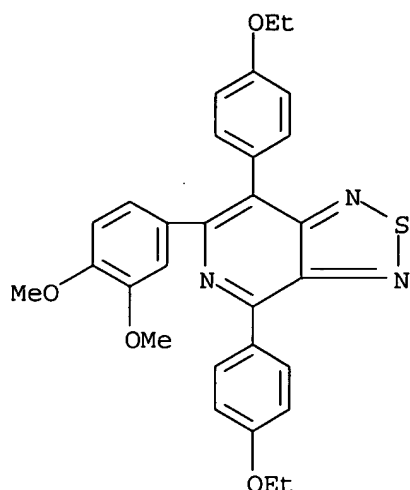
RN 85731-47-1 HCAPLUS

CN [1,2,5]Selenadiazolo[3,4-c]pyridine-6-carbonitrile, 4,7-diphenyl- (9CI) (CA INDEX NAME)

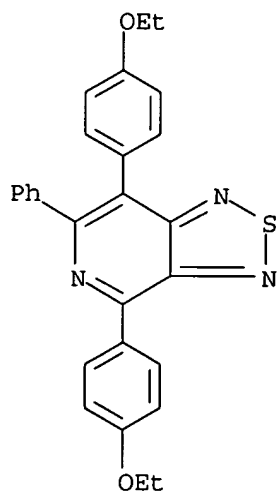


RN 121239-82-5 HCAPLUS

CN [1,2,5]Thiadiazolo[3,4-c]pyridine, 6-(3,4-dimethoxyphenyl)-4,7-bis(4-ethoxyphenyl)- (9CI) (CA INDEX NAME)

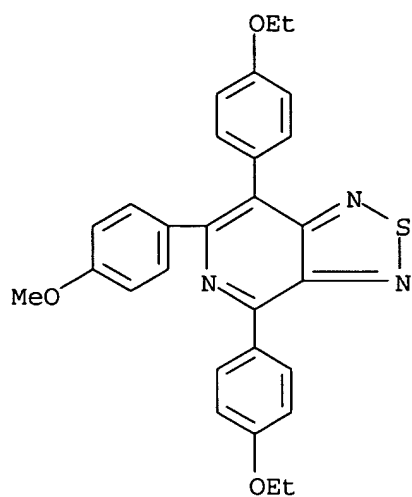


RN 121239-83-6 HCAPLUS

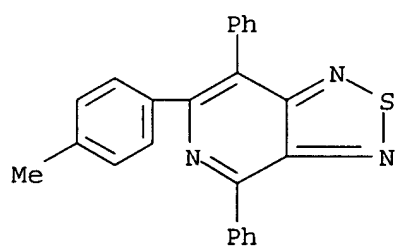
CN [1,2,5]Thiadiazolo[3,4-c]pyridine, 4,7-bis(4-ethoxyphenyl)-6-phenyl- (9CI)
(CA INDEX NAME)

RN 122022-11-1 HCAPLUS

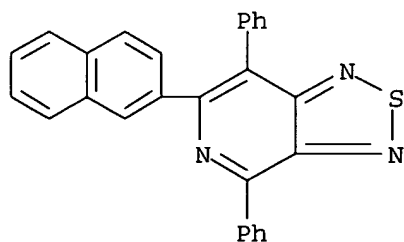
CN [1,2,5]Thiadiazolo[3,4-c]pyridine, 4,7-bis(4-ethoxyphenyl)-6-(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



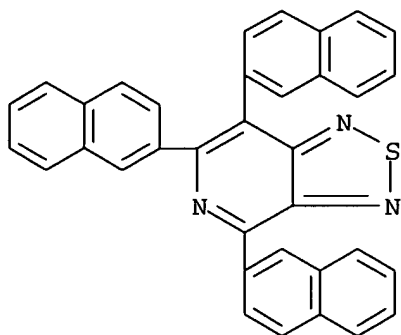
RN 136124-44-2 HCAPLUS
 CN [1,2,5]Thiadiazolo[3,4-c]pyridine, 6-(4-methylphenyl)-4,7-diphenyl- (9CI)
 (CA INDEX NAME)



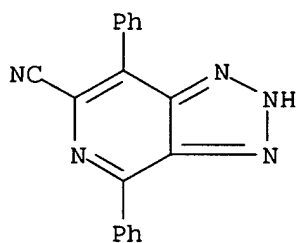
RN 136124-45-3 HCAPLUS
 CN [1,2,5]Thiadiazolo[3,4-c]pyridine, 6-(2-naphthalenyl)-4,7-diphenyl- (9CI)
 (CA INDEX NAME)



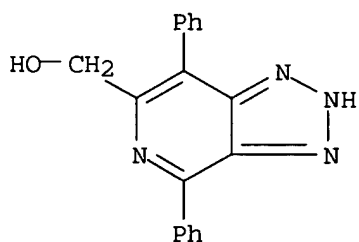
RN 136124-46-4 HCAPLUS
 CN [1,2,5]Thiadiazolo[3,4-c]pyridine, 4,6,7-tri-2-naphthalenyl- (9CI) (CA
 INDEX NAME)



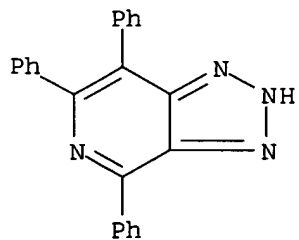
RN 136124-47-5 HCAPLUS
 CN 2H-1,2,3-Triazolo[4,5-c]pyridine-6-carbonitrile, 4,7-diphenyl- (9CI) (CA
 INDEX NAME)



RN 136124-48-6 HCAPLUS
 CN 2H-1,2,3-Triazolo[4,5-c]pyridine-6-methanol, 4,7-diphenyl- (9CI) (CA
 INDEX NAME)



RN 136145-92-1 HCAPLUS
 CN 2H-1,2,3-Triazolo[4,5-c]pyridine, 4,6,7-triphenyl- (9CI) (CA INDEX NAME)



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L12 ANSWER 1 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:592108 HCAPLUS

DOCUMENT NUMBER: 143:115539

TITLE: Preparation of benzimidazolylalkylcarbamates for modulating the activity of Chk1 kinase

INVENTOR(S): Rui, Eugene Yuanjin; Johnson, Theodore Otto; Kellum, Jack Harold

PATENT ASSIGNEE(S): Agouron Pharmaceuticals, Inc., USA

SOURCE: U.S. Pat. Appl. Publ., 58 pp.

CODEN: USXXCO

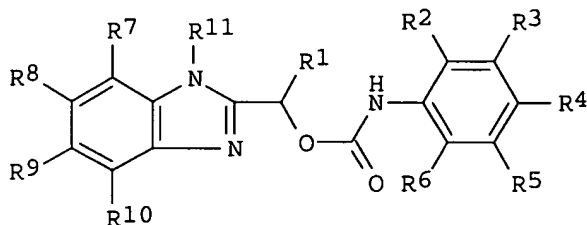
DOCUMENT TYPE: Patent

LANGUAGE: English

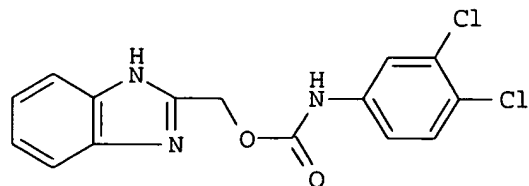
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005148643	A1	20050707	US 2004-922337	20040819
PRIORITY APPLN. INFO.: GI			US 2003-496659P	P 20030819



I



II

AB Title compds. I [R1 = OH, NH₂, alkyl, etc.; R2-10 = H, NO₂, halo, etc.; R11 = H] are prepared For instance, 1,2-dichloro-4-isocyanatobenzene is reacted with 1H-benzimidazol-2-ylmethanol (DMF, 80°, 1 h) to give II. II has Ki = 1-10 μM for Chk1 kinase. I are useful for the treatment of cancer as well as other diseases associated with unwanted cellular proliferation alone and in combination with anti-neoplastic agents.

IT 857445-36-4P

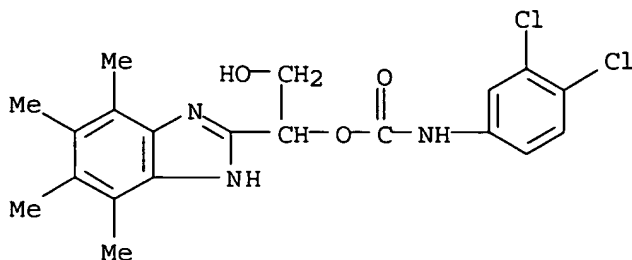
RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP

(Preparation); RACT (Reactant or reagent); USES (Uses)

(preparation of benzimidazolylalkylcarbamates for modulating the activity of Chk1 kinase)

RN 857445-36-4 HCAPLUS

CN INDEX NAME NOT YET ASSIGNED



IT 857445-21-7P 857445-37-5P

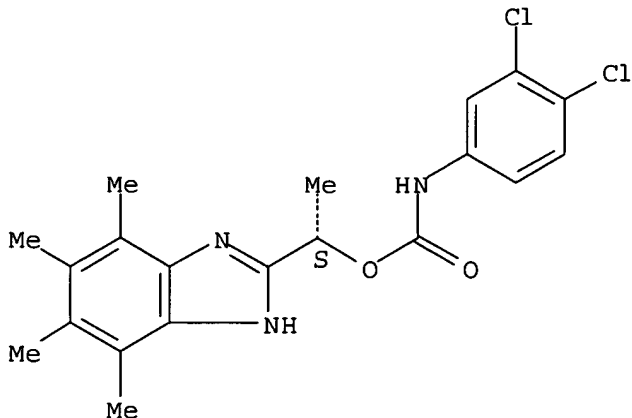
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of benzimidazolylalkylcarbamates for modulating the activity of Chk1 kinase)

RN 857445-21-7 HCAPLUS

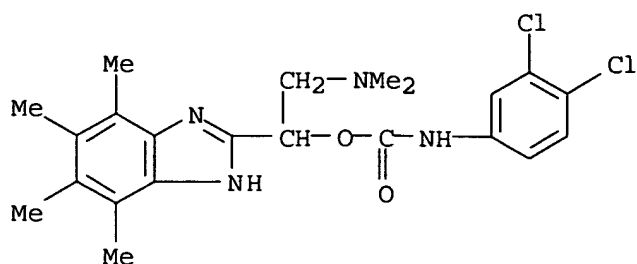
CN INDEX NAME NOT YET ASSIGNED

Absolute stereochemistry.

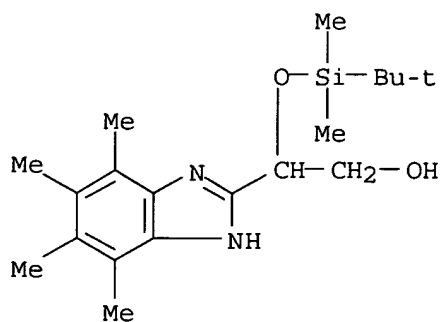


RN 857445-37-5 HCAPLUS

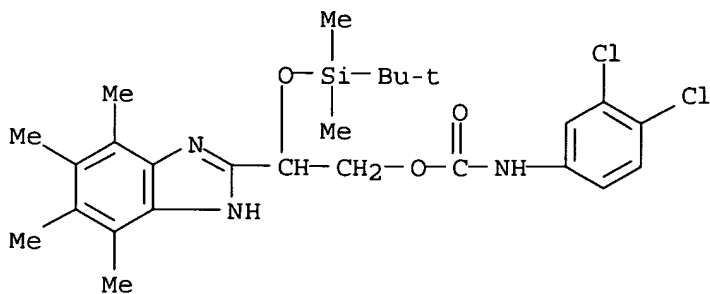
CN INDEX NAME NOT YET ASSIGNED



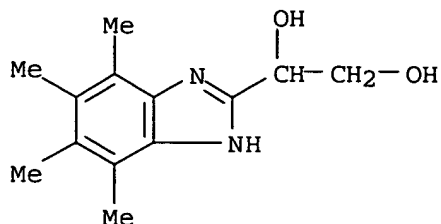
IT **857445-39-7P**, 2-[[tert-Butyl(dimethyl)silyl]oxy]-1-(4,5,6,7-tetramethyl-1H-benzimidazol-2-yl)ethanol **857445-40-0P**
857445-43-3P, 1-(4,5,6,7-Tetramethyl-1H-benzimidazol-2-yl)ethane-1,2-diol
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation of benzimidazolylalkylcarbamates for modulating the activity of Chk1 kinase)
 RN 857445-39-7 HCAPLUS
 CN 1H-Benzimidazole-2-ethanol, β -[[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4,5,6,7-tetramethyl- (9CI) (CA INDEX NAME)



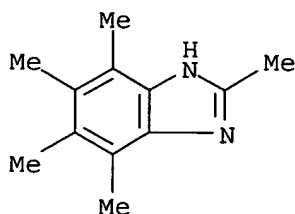
RN 857445-40-0 HCAPLUS
 CN INDEX NAME NOT YET ASSIGNED



RN 857445-43-3 HCAPLUS
 CN 1,2-Ethanediol, 1-(4,5,6,7-tetramethyl-1H-benzimidazol-2-yl)- (9CI) (CA INDEX NAME)



L12 ANSWER 2 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2005:354192 HCAPLUS
 TITLE: Synthesis and activity of 1H-benzimidazole and 1H-benzotriazole derivatives as inhibitors of Acanthamoeba castellanii. [Erratum to document cited in CA141:081684]
 AUTHOR(S): Kopanska, Katarzyna; Najda, Andzelika; Zebrowska, Justyna; Chomicz, Lidia; Piekarczyk, Janusz; Myjak, Przemyslaw; Bretner, Maria
 CORPORATE SOURCE: Institute of Biochemistry and Biophysics, Polish Academy of Sciences, Warsaw, 02-106, Pol.
 SOURCE: Bioorganic & Medicinal Chemistry (2005), 13(10), 3601 CODEN: BMECEP; ISSN: 0968-0896
 PUBLISHER: Elsevier Ltd.
 DOCUMENT TYPE: Journal; Errata
 LANGUAGE: English
 AB An erratum.
 IT INDEXING IN PROGRESS
 IT **69700-34-1P**
 RL: PAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation) (synthesis and activity of 1H-benzimidazole and 1H-benzotriazole derivs. as inhibitors of Acanthamoeba castellanii (Erratum))
 RN 69700-34-1 HCAPLUS
 CN 1H-Benzimidazole, 2,4,5,6,7-pentamethyl- (9CI) (CA INDEX NAME)



L12 ANSWER 3 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2004:415153 HCAPLUS
 DOCUMENT NUMBER: 142:32422
 TITLE: Definition of a novel atomic index for QSAR: the refractotopological state
 AUTHOR(S): Carrasco, R.; Padron, J. A.; Galvez, J.
 CORPORATE SOURCE: Pharmaceutical Chem. Cent., Havana, 16042, Cuba
 SOURCE: Journal of Pharmacy & Pharmaceutical Sciences (2004), 7(1), 19-26 CODEN: JPPSFY; ISSN: 1482-1826

URL: [http://www.ualberta.ca/~csps/JPPS7\(1\)/R.Carrasco/qsar.pdf](http://www.ualberta.ca/~csps/JPPS7(1)/R.Carrasco/qsar.pdf)

PUBLISHER: Canadian Society for Pharmaceutical Sciences
DOCUMENT TYPE: Journal; (online computer file)
LANGUAGE: English

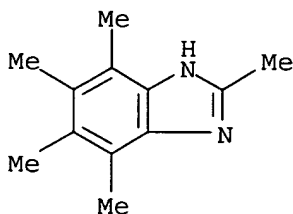
AB Purpose: In this work, a novel descriptor of atoms in mols. is introduced. The Refractotopol. State Index for atoms (R-state, .SCRIPTR.), rectifies the atomic refractivity values reported by Crippen et al with the atomic refractivity values of the topol. environment of each skeletal atom in the mol. Method: The R-state (.SCRIPTR.i), for atom i is an hybrid index that is defined as the intrinsic refractivity value of the atom i (ARi) plus a perturbation term ΔA_{Ri} in the non-hydrogen depleted graph. Results: The variations of the .SCRIPTR. values in different mols. are showed. QSAR examples previously reported by other authors are given for benzimidazole inhibition of Lee strain flu virus and receptor binding affinity of β -carboline. Conclusions: The index does not only describe the representation of the atomic dispersive forces related to the molar refractivity but also the influence of bounded and unbounded atoms as a measure of the distance-effect of the other groups in the mol. The R-state index has proved a good performance, either alone or combined with the electro topol. (E)-state index. This implies that in those cases this representation of dispersive forces between the mol. and the active site is a valid approach to the biol. problem.

IT 69700-34-1

RL: PAC (Pharmacological activity); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(quant. structure-activity relationship (QSAR) studies of aromatic compds.)

RN 69700-34-1 HCAPLUS

CN 1H-Benzimidazole, 2,4,5,6,7-pentamethyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 4 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:339475 HCAPLUS

DOCUMENT NUMBER: 141:81684

TITLE: Synthesis and activity of 1H-benzimidazole and 1H-benzotriazole derivatives as inhibitors of Acanthamoeba castellanii

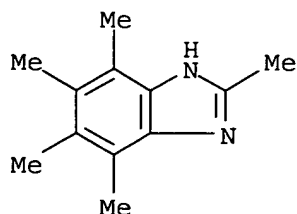
AUTHOR(S): Kopanska, Katarzyna; Najda, Andzelika; Zebrowska, Justyna; Chomicz, Lidia; Piekarczyk, Janusz; Myjak, Przemyslaw; Bretner, Maria

CORPORATE SOURCE: Institute of Biochemistry and Biophysics, Polish Academy of Sciences, Warsaw, 02-106, Pol.

SOURCE: Bioorganic & Medicinal Chemistry (2004), 12(10), 2617-2624

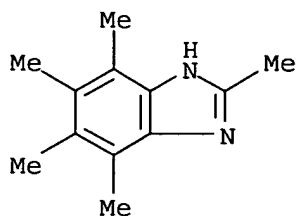
CODEN: BMECEP; ISSN: 0968-0896

PUBLISHER: Elsevier Ltd.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 141:81684
 AB Chloro-, bromo- and methyl- analogs of 1H-benzimidazole and 1H-benzotriazole and their N-alkyl derivs. have been synthesized and tested in vitro against the protozoa *Acanthamoeba castellanii*. The results indicate that 5,6-dimethyl-1H-benzotriazole (11) and 5,6-dibromo-1H-benzotriazole (14) have higher efficacy than the antiprotozoal agent chlorohexidine.
 IT **69700-34-1P**
 RL: PAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
 (synthesis and activity of 1H-benzimidazole and 1H-benzotriazole derivs. as inhibitors of *Acanthamoeba castellanii*)
 RN 69700-34-1 HCAPLUS
 CN 1H-Benzimidazole, 2,4,5,6,7-pentamethyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 5 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2002:622705 HCAPLUS
 DOCUMENT NUMBER: 137:365870
 TITLE: QSAR/QSPR studies by Cluj and Szeged descriptors
 AUTHOR(S): Katona, Gabriel; Turcu, Gabriel; Kiss, Anton A.; Minailiuc, Ovidiu M.; Diudea, Mircea V.
 CORPORATE SOURCE: Research and Production Centre "BIOS", Cluj Napoca, Rom.
 SOURCE: Revue Roumaine de Chimie (2002), Volume Date 2001, 46(4), 395-410
 CODEN: RRCHAX; ISSN: 0035-3930
 PUBLISHER: Editura Academiei Romane
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The novel Cluj property indexes are used for modeling the biol. and physico-chemical properties of some sets of organic compds.: the antiviral activity of benzimidazole derivs., the inhibitory activity of hydroxyureas in the biosynthesis of deoxyribonucleotides and the vapor pressure of some polychlorinated biphenils, involved in environmental pollution. The results are compared to those reported in the literature.
 IT **69700-34-1**, 2,4,5,6,7-Pentamethyl-benzimidazole
 RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
 (QSAR/QSPR studies of organic compds. using fragmental property indexes)
 RN 69700-34-1 HCAPLUS
 CN 1H-Benzimidazole, 2,4,5,6,7-pentamethyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 6 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:283612 HCAPLUS

DOCUMENT NUMBER: 131:82571

TITLE: Estimation of the inhibition of flu-virus by benzimidazoles using Wiener index

AUTHOR(S): Bhangadia, Rashmi; Khadikar, P. V.; Agrawal, J. K.

CORPORATE SOURCE: Department of Chemistry, S.G.S.I.T.S., Indore, India

SOURCE: Indian Journal of Chemistry, Section A: Inorganic, Bio-inorganic, Physical, Theoretical & Analytical Chemistry (1999), 38A(2), 170-172

CODEN: ICACEC; ISSN: 0376-4710

PUBLISHER: National Institute of Science Communication, CSIR

DOCUMENT TYPE: Journal

LANGUAGE: English

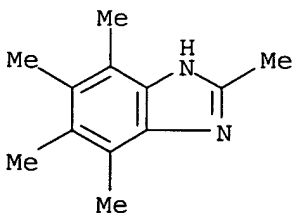
AB The role of Wiener index in estimating inhibition of flu-virus by benzimidazoles is described. Excellent correlation is obtained between values of Wiener index and the inhibition consts. of some benzimidazoles as indicated by the regression anal. of the data. The approach is illustrated on a selection of benzimidazoles for which the inhibition consts. are known.

IT 69700-34-1, 2,4,5,6,7-Pentamethylbenzimidazole

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study) (estimation of the inhibition of influenza virus by benzimidazoles using Wiener index)

RN 69700-34-1 HCAPLUS

CN 1H-Benzimidazole, 2,4,5,6,7-pentamethyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

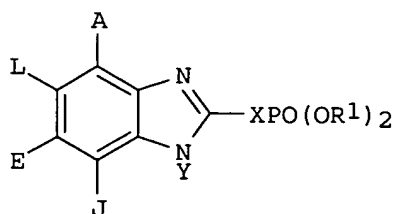
L12 ANSWER 7 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:612105 HCAPLUS

DOCUMENT NUMBER: 129:245147

TITLE: Preparation of benzimidazolylphosphonates as inhibitors of fructose-1,6-bisphosphatase.
 INVENTOR(S): Kasibhatla, Srinivas Rao; Reddy, K. Raja; Erion, Mark D.; Dang, Qun; Scarlato, Gerard R.; Reddy, M. Rami
 PATENT ASSIGNEE(S): Metabasis Therapeutics, Inc., USA
 SOURCE: PCT Int. Appl., 190 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9839343	A1	19980911	WO 1998-US4498	19980306
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9866914	A1	19980922	AU 1998-66914	19980306
ZA 9801936	A	19990906	ZA 1998-1936	19980306
EP 970095	A1	20000112	EP 1998-909031	19980306
EP 970095	B1	20031029		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
US 6110903	A	20000829	US 1998-36329	19980306
JP 2001515482	T2	20010918	JP 1998-538887	19980306
AT 253073	E	20031115	AT 1998-909031	19980306
EP 1402895	A1	20040331	EP 2003-24556	19980306
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
PT 970095	T	20040331	PT 1998-909031	19980306
ES 2210728	T3	20040701	ES 1998-909031	19980306
US 6399782	B1	20020604	US 2000-547282	20000411
PRIORITY APPLN. INFO.:				
			US 1997-40627P	P 19970307
			US 1998-36329	A1 19980306
			WO 1998-US4498	W 19980306
			EP 1998-909031	A3 19980911
OTHER SOURCE(S): MARPAT 129:245147				
GI				



AB Title compds. [I; A, E, L = N(R8)2, NO2, H, OR7, SR7, CON(R4)2, halo, COR11, SO2R3, guanidino, amidino, NHSO2R5, SO2N(R4)2, cyano, sulfoxide,

perhaloacyl, perhaloalkyl, perhaloalkoxy, alkyl, alkenyl, alkynyl, alicyclyl; AL or LE or EJ = cyclic group; J = N(R8)2, NO2, H, OR7, SR7, CON(R4)2, halo, COR11, cyano, sulfonyl, sulfoxide, perhaloalkyl, hydroxyalkyl, perhaloalkoxy, alkyl, haloalkyl, aminoalkyl, alkenyl, alkynyl, alicyclyl, aryl, aralkyl; JY = cyclic group; X = (substituted) alkylamino, alkyl(hydroxy), alkyl(carboxyl), alkyl(phosphonate), alkyl, alkenyl, alkynyl, alkyl(sulfonate), aryl, carbonylalkyl, 1,1-dihaloalkyl, aminocarbonylamino, alkylaminoalkyl, alkoxyalkyl, alkylthioalkyl, alkylthio, alkylaminocarbonyl, alkylcarbonylamino, alicyclic, aralkyl, alkylaryl; XY = cyclic group; Y = H, (substituted) alkyl, alkenyl, alkynyl, aryl, alicyclyl, aralkyl, aryloxyalkyl, alkoxyalkyl, COR3, SO2R3, COR11, CONHR3, N(R2)2, OR3; R1 = H, alkyl, aryl, alicyclyl, etc.; R2, R4 = R3, H; R3, R5 = alkyl, aryl, alicyclyl, aralkyl; R7, R8 = R2, acyl; R11 = alkyl, aryl, OH, NH2, OR3], were prepared Thus, 4-amino-7-ethyl-5-fluoro-1-isobutyl-2-(2-phosphono-5-furanyl)benzimidazole at 20 mg/kg i.p. in rats lowered blood glucose by 64.6%.

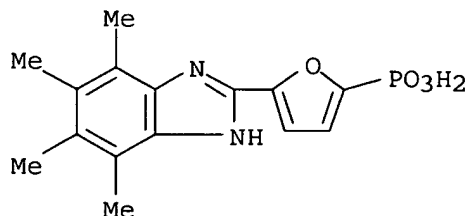
IT 213200-36-3P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of benzimidazolylphosphonates as inhibitors of fructose-1,6-bisphosphatase)

RN 213200-36-3 HCAPLUS

CN Phosphonic acid, [5-(4,5,6,7-tetramethyl-1H-benzimidazol-2-yl)-2-furanyl]-(9CI) (CA INDEX NAME)



REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 8 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:598050 HCAPLUS

DOCUMENT NUMBER: 127:213792

TITLE: Water-soluble prefluxes, printed circuit boards, and surface-treatment of metal surface thereof

INVENTOR(S): Ono, Takao; Akaike, Shinichi

PATENT ASSIGNEE(S): Tamura Kaken Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09176871	A2	19970708	JP 1995-350021	19951225
PRIORITY APPLN. INFO.:			JP 1995-350021	19951225
OTHER SOURCE(S):		MARPAT 127:213792		

AB The title prefluxes for prevention of corrosion on circuit metal in solder-precoated integrated Cu circuits having narrow-pitch leads are an aqueous amino-acid solution containing alkyl-substd. benzimidazoles. The prefluxes

protects Cu circuit surface from corrosion by forming a corrosion resistant film on the metal surface and provides solders with good soldering.

IT 153314-30-8, 4,5,6,7-Tetramethyl-2-n-propylbenzimidazole

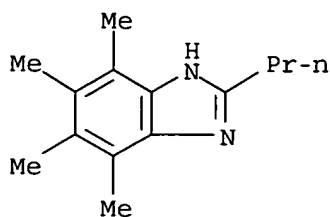
194302-89-1, 4,5,6,7-Tetramethyl-2-n-hexylbenzimidazole

RL: PRP (Properties)

(preflux solution; water-soluble prefluxes, printed circuit boards, and surface-treatment of metal surface thereof)

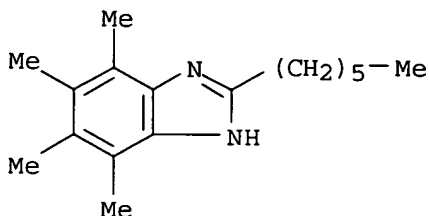
RN 153314-30-8 HCAPLUS

CN 1H-Benzimidazole, 4,5,6,7-tetramethyl-2-propyl- (9CI) (CA INDEX NAME)



RN 194302-89-1 HCAPLUS

CN 1H-Benzimidazole, 2-hexyl-4,5,6,7-tetramethyl- (9CI) (CA INDEX NAME)



L12 ANSWER 9 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:598039 HCAPLUS

DOCUMENT NUMBER: 127:194037

TITLE: Method and apparatus for surface treatment of printed circuit boards

INVENTOR(S): Ono, Takao; Akaike, Shinichi

PATENT ASSIGNEE(S): Tamura Kaken Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09181430	A2	19970711	JP 1995-350023	19951225
JP 3376465	B2	20030210		

PRIORITY APPLN. INFO.:

JP 1995-350023

19951225

AB A metal surface having a Cu or Cu alloy surface in printed circuit boards is treated by coating with a water-soluble preflux containing an imidazole compound

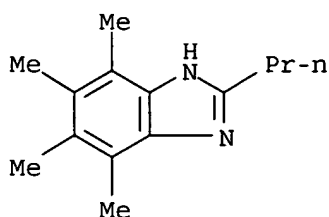
In the preflux circulation, heavy metals, especially Cu, eluting from the metal surface into the preflux are selectively removed. The metal surface is preferably plated with Au. The Cu surface is protected from corrosion for soldering without any adverse effect on the Au plating.

IT 153314-30-8

RL: PEP (Physical, engineering or chemical process); PROC (Process)
(method and apparatus for surface treatment of printed circuit boards with copper circuit pattern)

RN 153314-30-8 HCAPLUS

CN 1H-Benzimidazole, 4,5,6,7-tetramethyl-2-propyl- (9CI) (CA INDEX NAME)



L12 ANSWER 10 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:556107 HCAPLUS

DOCUMENT NUMBER: 127:161824

TITLE: Benzimidazolyl neuropeptide Y receptor antagonists

INVENTOR(S): Arnold, Macklin B.; Britton, Thomas C.; Bruns, Robert F., Jr.; Cantrell, Buddy E.; Happ, Anne M.; Hipkind, Philip A.; Howbert, James J.; Lobb, Karen L.; Nixon, James A.; Ornstein, Paul L.; Smith, Edward C.; Zarrinmayeh, Hamideh; Zimmerman, Dennis M.

PATENT ASSIGNEE(S): Eli Lilly and Co., USA

SOURCE: PCT Int. Appl., 369 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

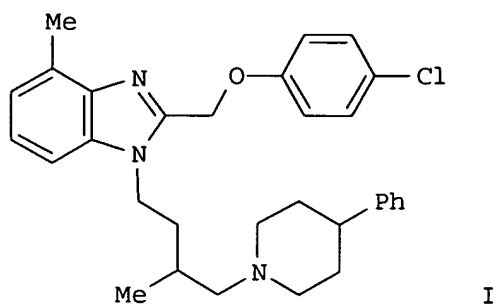
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9725041	A1	19970717	WO 1997-US511	19970109
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2242579	AA	19970717	CA 1997-2242579	19970109
AU 9722421	A1	19970801	AU 1997-22421	19970109
EP 871442	A1	19981021	EP 1997-905573	19970109
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI				

JP 2000501107	T2	20000202	JP 1997-525457	19970109
US 6255494	B1	20010703	US 1997-775538	19970109
ZA 9704587	A	19981126	ZA 1997-4587	19970526
US 2002007071	A1	20020117	US 2000-726276	20001130
PRIORITY APPLN. INFO.:			GB 1996-344	A 19960109
			US 1996-21636P	P 19960712
			US 1997-775538	A3 19970109
			WO 1997-US511	W 19970109
OTHER SOURCE(S):		MARPAT 127:161824		
GI				



AB This invention provides a series of benzimidazoles, substituted in the 1-position by a variety of groups, substituted in the 2-position by certain carbocycle-containing groups, and optionally substituted in positions 4-7. The compds. are useful in treating or preventing conditions associated with an excess of neuropeptide Y. The invention also provides methods employing the compds., as well as pharmaceutical formulations comprising one or more of them as active ingredients. Many of the compds. are said to show significant activity as neuropeptide Y receptor antagonists, with K_i of 10 μ M to 0.1 nM (no addnl. data). Over 360 synthetic examples are given, in which the invention compds. serve as both intermediates and/or final products. Addnl. preps. of non-invention compds. are also provided. For instance, 2-[(4-chlorophenoxy)methyl]-4-methylbenzimidazole underwent N-alkylation by $\text{BrCH}_2\text{CH}_2\text{CHMeCO}_2\text{Et}$ using NaH in DMF (98%), and the product underwent a sequence of saponification (94%), amidation with 4-phenylpiperidine using DCC and HOBT (56%), and amide reduction using $\text{BH}_3\cdot\text{THF}$ (72%), to give title compound I.

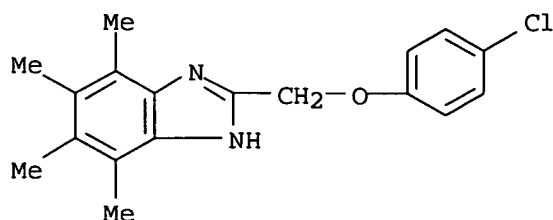
IT **193629-20-8P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(intermediate; preparation of benzimidazole derivs. as neuropeptide Y receptor antagonists)

RN 193629-20-8 HCAPLUS

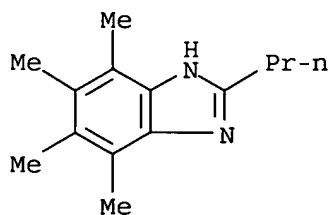
CN 1H-Benzimidazole, 2-[(4-chlorophenoxy)methyl]-4,5,6,7-tetramethyl- (9CI)
(CA INDEX NAME)



L12 ANSWER 11 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1996:87825 HCAPLUS
 DOCUMENT NUMBER: 124:248187
 TITLE: Manufacture of printed circuit board
 INVENTOR(S): Oono, Takao; Akaike, Shinichi
 PATENT ASSIGNEE(S): Tamura Kaken Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07307551	A2	19951121	JP 1994-119656	19940510

PRIORITY APPLN. INFO.: JP 1994-119656 19940510
 OTHER SOURCE(S): MARPAT 124:248187
 GI For diagram(s), see printed CA Issue.
 AB To form a circuit wiring pattern having through holes, a Cu-coated substrate is etched after forming an etching resist film on through holes and in their periphery using a solution containing ≥ 1 benzimidazole compound I (R1 = C1-7 (branched) alkyl; R2 = (branched) alkyl; R3 = Ph, alkylphenyl; n = 0-4; m = 0-3), II (R4 = C1-7 (branched) alkyl; R5 = (branched) alkyl, Ph, alkylphenyl, phenylalkyl; n = 0-4; m = 0-1; p = 0-4), III (R6 = alkyl; n = 0-3; m = 0-4; p = 0-3; q = 0-4) and/or their salt. The resist film may be heated or oxidized before etching.
 IT 153314-30-8, 4,5,6,7-Tetramethyl-2-propyl-1H-benzimidazole
 RL: TEM (Technical or engineered material use); USES (Uses)
 (etching resist films containing benzimidazole derivative for patterning of printed circuit boards)
 RN 153314-30-8 HCAPLUS
 CN 1H-Benzimidazole, 4,5,6,7-tetramethyl-2-propyl- (9CI) (CA INDEX NAME)

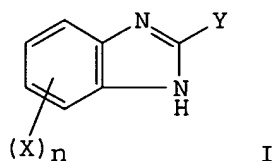


L12 ANSWER 12 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1994:137258 HCAPLUS
 DOCUMENT NUMBER: 120:137258
 TITLE: Surface protecting agents for printed circuit boards
 INVENTOR(S): Sasahara, Yasumichi; Oono, Takao
 PATENT ASSIGNEE(S): Tamura Kaken Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05025407	A2	19930202	JP 1991-202460	19910717
JP 2575242	B2	19970122		
US 5735973	A	19980407	US 1993-170049	19931220
PRIORITY APPLN. INFO.:			JP 1991-202460	A 19910717
OTHER SOURCE(S):	MARPAT	120:137258		

GI



AB Title agents comprise I [X = C1-7 alkyl, halo, amino, di(lower alkyl)amino, OH, lower alkoxy, cyano, Ac, Bz, carbamoyl, formyl, CO₂H, lower alkoxycarbonyl, NO₂; Y = C1-20 linear or branched alkyl; n = 1-4] and are applied as aqueous solns. of the salts of I. Thus, a clean Cu sheet (30.0 + 7.5 + 0.3 mm) was immersed in an aqueous solution containing 6-methyl-2-n-propylbenzimidazole, tartaric acid, CuSO₄, and aqueous NH₃ at 50° for 2 min, heated at 200° for a specified period of time, coated with a post flux, and tested for wettability by solder (JIS C 0053) and spreading of solder (JIS Z 3197). The wetting time of solder was 0.21 s before the heating, 0.35 s after 5 min, 0.57 s after 10 min, 1.15 s after 15 min, and 2.03 s after 20 min and the spreading of solder was 94.3, 93.7, 92.3, 91.5, and 89.5, resp.

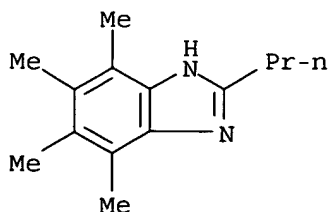
IT 153314-30-8

RL: USES (Uses)

(aqueous solns., protective coatings for copper in printed circuit boards)

RN 153314-30-8 HCAPLUS

CN 1H-Benzimidazole, 4,5,6,7-tetramethyl-2-propyl- (9CI) (CA INDEX NAME)



L12 ANSWER 13 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1991:100561 HCAPLUS

DOCUMENT NUMBER: 114:100561

TITLE: The electrotopological state: structure information at the atomic level for molecular graphs

AUTHOR(S): Hall, Lowell H.; Mohny, Brian; Kier, Lemont B.

CORPORATE SOURCE: Dep. Chem., East. Nazarene Coll., Quincy, MA, 02170, USA

SOURCE: Journal of Chemical Information and Computer Sciences (1991), 31(1), 76-82

CODEN: JCISD8; ISSN: 0095-2338

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The electrotopol. states, a novel representation of atoms in mols., is developed from chemical graph theory as an index of the graph vertex (or skeletal group). This new index combines both the electronic character and the topol. environment of each skeletal atom in a mol. The electrotopol. state (E-state) of a skeletal atom is formulated as an intrinsic value I_i plus a perturbation term, ΔI_i , arising from the electronic interaction and modified by the mol. topol. environment of each atom in the mol. The atom intrinsic value, for 1-row atoms, is given as $I = (\delta_v + 1)/\delta$, in which δ_v and δ are the counts of valence and σ electrons, resp., for the atom in the mol. skeleton. The E-state, S_i , for atom i is defined as $S_i = I_i + \Delta I_i$, where the influence of other atoms on atom i , ΔI_i , is given as $\sum (I_i - I_j)/r_{ij}^2$; r_{ij} is the graph separation between atoms i and j , counted as the number

of atoms inclusive of i and j . Information in the electrotopol. state is revealed by examples of various types of organic structures, including skeletal branching and heteroatom variation. Applications of this new method are given by 170 NMR chemical shift and inhibition of flu virus.

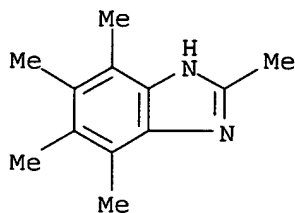
IT 69700-34-1

RL: PRP (Properties)

(electrotopol. state of, mol. graph construction in relation to)

RN 69700-34-1 HCAPLUS

CN 1H-Benzimidazole, 2,4,5,6,7-pentamethyl- (9CI) (CA INDEX NAME)



L12 ANSWER 14 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1990:117947 HCAPLUS

DOCUMENT NUMBER: 112:117947

TITLE: On a fragment approach to structure-activity correlations

AUTHOR(S): Randic, Milan; Jurs, Peter C.

CORPORATE SOURCE: Dep. Chem., Pennsylvania State Univ., University Park, PA, 16802, USA

SOURCE: Quantitative Structure-Activity Relationships (1989),
8(1), 39-48
CODEN: QSARDI; ISSN: 0931-8771

DOCUMENT TYPE: Journal

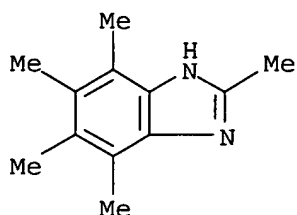
LANGUAGE: English

AB The title graph-theor. approach, based on characterization of fragments by suitably weighted paths, was applied to the MSBAR of antiviral alkylbenzimidazoles.

IT **69700-34-1**
RL: PROC (Process)
(graph-theor. description of, in MSBAR of its antiviral activity)

RN 69700-34-1 HCAPLUS

CN 1H-Benzimidazole, 2,4,5,6,7-pentamethyl- (9CI) (CA INDEX NAME)



L12 ANSWER 15 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1987:32433 HCAPLUS

DOCUMENT NUMBER: 106:32433

TITLE: New synthesis of diaminoprehniten

AUTHOR(S): D'yachenko, E. K.; Pesin, V. G.; Papirnik, M. P.

CORPORATE SOURCE: Sev.-Zapadn. Zaochn. Politekh. Inst., Cherepovets, USSR

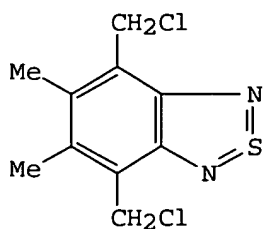
SOURCE: Zhurnal Organicheskoi Khimii (1986), 22(2), 421-4
CODEN: ZORKAE; ISSN: 0514-7492

DOCUMENT TYPE: Journal

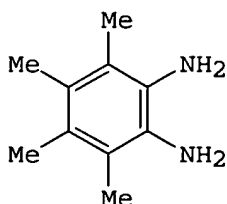
LANGUAGE: Russian

OTHER SOURCE(S): CASREACT 106:32433

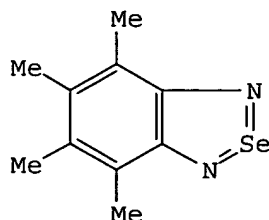
GI



I



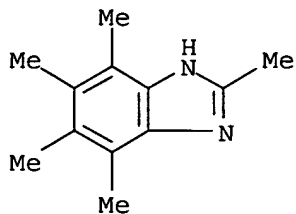
II



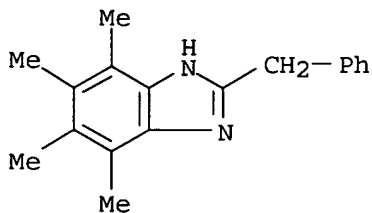
III

AB Chloromethylation of 5,6-dimethyl-2,1,3-benzothiadiazole with $(\text{ClCH}_2)_2\text{O}$ gave I, which could be reduced with $\text{SnCl}_2\text{-HCl}$ in aqueous EtOH to the tetra-Me analog or to the title compound (II), which underwent a number of heterocyclization reactions; e.g., with aqueous SeO_2 it gave selenadiazole III.

IT 69700-34-1P 106148-68-9P 106148-69-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 69700-34-1 HCAPLUS
CN 1H-Benzimidazole, 2,4,5,6,7-pentamethyl- (9CI) (CA INDEX NAME)

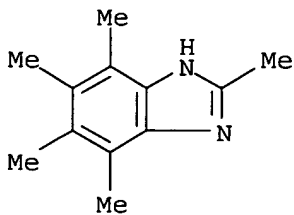


RN 106148-68-9 HCAPLUS
CN 1H-Benzimidazole, 4,5,6,7-tetramethyl-2-(phenylmethyl)-, monohydrochloride
(9CI) (CA INDEX NAME)



● HCl

RN 106148-69-0 HCAPLUS
CN 1H-Benzimidazole, 2,4,5,6,7-pentamethyl-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

L12 ANSWER 16 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1984:133915 HCAPLUS
DOCUMENT NUMBER: 100:133915

TITLE: Quantitative structure-activity relationship studies of acute toxicity (LD50) in a large series of herbicidal benzimidazoles

AUTHOR(S): Adamson, George W.; Bawden, David; Saggars, David T.

CORPORATE SOURCE: Postgrad. Sch. Librarianship Inf. Sci., Univ. Sheffield, Sheffield, S10 2TN, UK

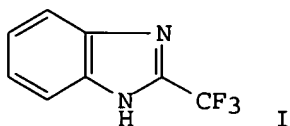
SOURCE: Pesticide Science (1984), 15(1), 31-9

CODEN: PSSCBG; ISSN: 0031-613X

DOCUMENT TYPE: Journal

LANGUAGE: English

GI



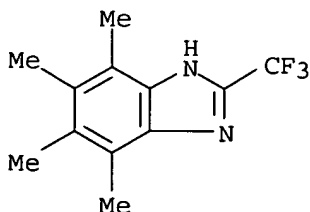
AB QSAR studies were carried out on oral rat LD50 values, for 129 herbicidal derivs. of 2-(trifluoromethyl)benzimidazole (I) [312-73-2] by multiple regression analyses, using computer-generated descriptors to represent chemical structure, at several levels of specificity. The results permit rationalization of the structure-toxicity relationship, particularly the effect of substituent interactions, and allows reliable rough estimate prediction of toxicity. However, reliable predictions of high accuracy are not feasible, even from anal. of this large, consistent, congeneric set of data, thus casting doubt on the suitability of the LD50 as a biol. end-point for a QSAR.

IT 89427-45-2

RL: ADV (Adverse effect, including toxicity); BIOL (Biological study) (toxicity of, structure in relation to)

RN 89427-45-2 HCAPLUS

CN 1H-Benzimidazole, 4,5,6,7-tetramethyl-2-(trifluoromethyl)- (9CI) (CA INDEX NAME)



L12 ANSWER 17 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

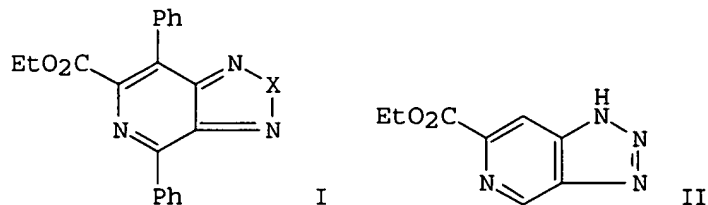
ACCESSION NUMBER: 1983:198113 HCAPLUS

DOCUMENT NUMBER: 98:198113

TITLE: Reduction of 4,7-diphenyl-1,2,5-thia(oxa)diazolo[3,4-c]pyridines affording 2,5-diphenyl-3,4-diaminopyridines and ring closure of the diamines to fluorescent azaheterocycles

AUTHOR(S): Mataka, Shuntaro; Takahashi, Kazufumi; Imura, Tetsuro; Tashiro, Masashi

CORPORATE SOURCE: Res. Inst. Ind. Sci., Kyushu Univ. 86, Kasuga, 816, Japan
 SOURCE: Journal of Heterocyclic Chemistry (1982), 19(6), 1481-8
 CODEN: JHTCAD; ISSN: 0022-152X
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 98:198113
 GI



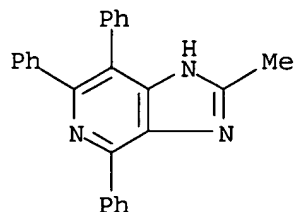
AB Reduction of diphenyl-1,2,5-thiadiazolopyridines, e.g. I (X = S), and diphenyl-1,2,5-oxadiazolopyridines, e.g. I (X = O), gave diaminodiphenylpyridines, which were converted into fluorescent triazolo[4,5-c]pyridines, e.g. II, selenadiazolo[3,4-c]pyridines, imidazolo[4,5-c]pyridines, and pyrido[5,6-c]pyridines. Reduction of 1,2,5-oxadiazolo[3,4-c]pyridines gave 4,5-dihydro[1,2,5]oxadiazolo[3,4-c]pyridine.

IT **85731-49-3P 85731-52-8P**

RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

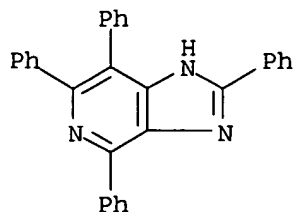
RN 85731-49-3 HCAPLUS

CN 1H-Imidazo[4,5-c]pyridine, 2-methyl-4,6,7-triphenyl- (9CI) (CA INDEX NAME)



RN 85731-52-8 HCAPLUS

CN 1H-Imidazo[4,5-c]pyridine, 2,4,6,7-tetraphenyl- (9CI) (CA INDEX NAME)



L12 ANSWER 18 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1982:134779 HCAPLUS

DOCUMENT NUMBER: 96:134779

TITLE: Structural comparison of a redox pair of copper(I/II) complexes having benzimidazole thioether ligands

AUTHOR(S): Dagdigian, Jeffrey V.; McKee, Vickie; Reed, Christopher A.

CORPORATE SOURCE: Dep. Chem., Univ. South. California, Los Angeles, CA, 90007, USA

SOURCE: Inorganic Chemistry (1982), 21(4), 1332-42

CODEN: INOCAJ; ISSN: 0020-1669

DOCUMENT TYPE: Journal

LANGUAGE: English

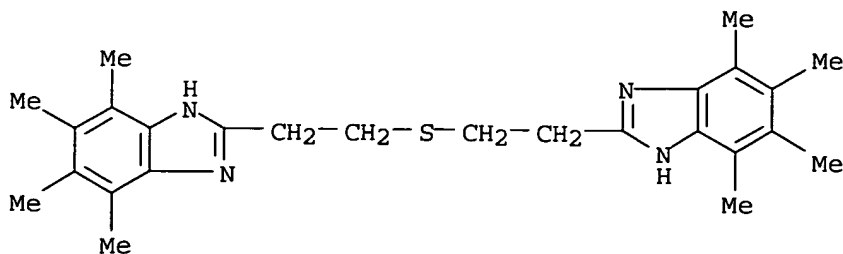
AB Differences in the intrinsic structural preferences of Cu(I) and Cu(II) were investigated within the constraints of a tridentate benzimidazole thioether chelating ligand. A 3-coordinate T-shaped Cu(I) cation is formed with the 2N,S donor ligand 2,2'-bis(2-(N-propylbenzimidazolyl))diethyl sulfide (L1-Pr) while a 5-coordinate distorted tetragonal-pyramidal stereochem. is found for Cu(II) with the closely related ligand 2,2'-bis(2-(5,6-dimethylbenzimidazolyl))diethyl sulfide (L3). The 4th and 5th ligands to Cu(II) are an equatorial H₂O and an axial monodentate perchlorate. [Cu(L1-Pr)](BF₄) crystallizes in the monoclinic space group P2₁/c with a 9.865(3), b 17.614(5), c 15.242(3) Å, β 109.93(2) and Z = 4; Cu-S = 2.469(9) Å and N-Cu-S = 98.3(2)°, 99.4(2)°. [Cu(L3)(H₂O)(OClO₃)](ClO₄) crystallizes in the triclinic space group P₁hivin.1, with a 7.909(4), b 10.972(7), c 16.65(1) Å, α 103.10(5), β 96.56(6), γ 103.98(5)° and Z = 2; Cu-S = 2.322(2) Å, Cu-OH₂ = 2.045(5) Å and Cu-OClO₃ = 2.346(6) Å. The long Cu(I)-S distance appears to arise from a marked misalignment of the bonding sp³ lone pair on S with the Cu-S vector. These structures allow ests. to be made for the intrinsic Cu-N and Cu-S bond distances for histidine and methionine ligated Cu proteins, thereby focusing attention on the peculiarity of the very long Cu-methionine bond reported for plastocyanin. Several new benzimidazole chelating ligands were synthesized using the versatile carboxylic acid/o-phenylenediamine condensation method and their Cu(I) and Cu(II) complexes are reported. UV-visible spectral assignments of π(N) and σ(S) to Cu(II) charge-transfer transitions were made and axial ESR spectra are found (g.dblvert. > g_L).

IT 80583-50-2P

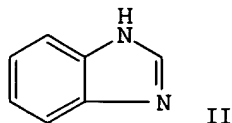
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 80583-50-2 HCAPLUS

CN 1H-Benzimidazole, 2,2'-(thiodi-2,1-ethanediyl)bis[4,5,6,7-tetramethyl-(9CI) (CA INDEX NAME)]



L12 ANSWER 19 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1979:133317 HCAPLUS
DOCUMENT NUMBER: 90:133317
TITLE: Molecular connectivity and substructure analysis
AUTHOR(S): Hall, Lowell H.; Kier, Lemont B.
CORPORATE SOURCE: Dep. Chem., Eastern Nazarene Coll., Quincy, MA, USA
SOURCE: Journal of Pharmaceutical Sciences (1978), 67(12),
1743-7
CODEN: JPMSAE; ISSN: 0022-3549
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



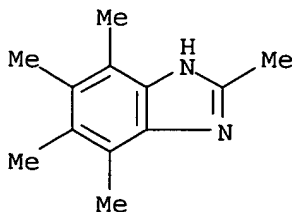
AB For phenylpropyl ether (I) [622-85-5] activity against Trichophyton mentagrophytes and benzimidazole (II) [51-17-2] activity against B flu virus Lee strain, mol. connectivity provided structure-activity relation equations which gave results superior to those derived from Hansch π , σ anal. For I, Br in the para-position and Me in the meta-position increased activity, whereas vic-dihydroxy substitution decreased activity. For II, substitution of branched, or cyclic, alkyl groups on the 2-position was correlated with high virucidal activity. Structurally significant portions of the biol. active mols. can apparently be identified by partial subgraph terms.

IT 69700-34-1

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(virucidal activity of, structure in relation to)

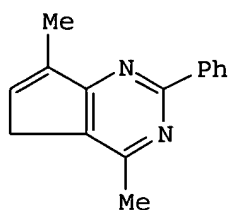
RN 69700-34-1 HCAPLUS

CN 1H-Benzimidazole, 2,4,5,6,7-pentamethyl- (9CI) (CA INDEX NAME)

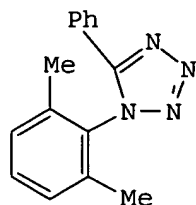


L12 ANSWER 20 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1976:592649 HCAPLUS
DOCUMENT NUMBER: 85:192649
TITLE: Rearrangement of ortho-blocked N-arylbenzimidoyl

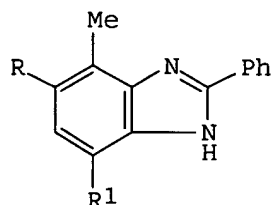
nitrenes. A proposed [1,9] methyl migration
 AUTHOR(S): Gilchrist, Thomas L.; Moody, Christopher J.; Rees, Charles W.
 CORPORATE SOURCE: Robert Robinson Lab., Univ. Liverpool, Liverpool, UK
 SOURCE: Journal of the Chemical Society, Chemical Communications (1976), (11), 414-15
 CODEN: JCCCAT; ISSN: 0022-4936
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI



II



III



IV

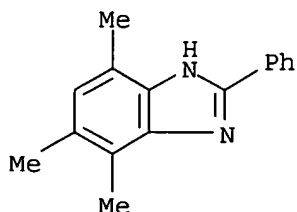
AB Photolysis of ortho-blocked aryl sulfimides and tetrazoles gave carbodiimides and cyclopenta[d]pyrimidines. E.g., photolysis of 2,6-Me₂C₆H₃N:CPhN-S+Me₂ gave 12% 2,6-Me₂C₆H₃N:C:NPh (I) and 13% II. Pyrolysis of the tetrazoles gave benzimidazoles in addition to the carbodiimides and cyclopentapyrimidines. E.g., pyrolysis of III gave 46% I, 3% II, and 10% IV (R = H, R₁ = Me; R = Me, R₁ = H). The products are formed by successive [1.5] or [1.9] shifts in 3aH-benzimidazole intermediates.

IT **60986-34-7P**

RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

RN 60986-34-7 HCAPLUS

CN 1H-Benzimidazole, 4,5,7-trimethyl-2-phenyl- (9CI) (CA INDEX NAME)



L12 ANSWER 21 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1969:106098 HCAPLUS

DOCUMENT NUMBER: 70:106098

TITLE: Nitrations of 2,4,5-triisopropylacetanilide

AUTHOR(S): Neale, Alan J.; Davies, Keith M.; Ellis, J.

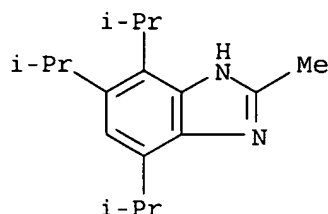
CORPORATE SOURCE: Nickell Lab., Monsanto Chem. Ltd., Ruabon, UK

SOURCE: Tetrahedron (1969), 25(7), 1423-31

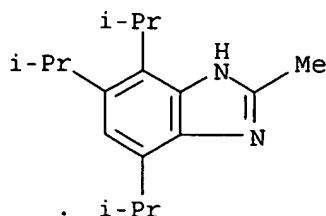
CODEN: TETRAB; ISSN: 0040-4020

DOCUMENT TYPE: Journal

LANGUAGE: English
 OTHER SOURCE(S): CASREACT 70:106098
 AB Nitration of 2,4,5-triisopropylacetanilide gives mainly 2,4,5-triisopropyl-6-nitroacetanilide in Ac₂O and mainly 2,4-diisopropyl-5-nitroacetanilide in concentrated H₂SO₄. An attempt was made to interpret the direction of substitution in H₂SO₄ in terms of the dominant influence of the 2-isopropyl group in substitutions in the conjugate acid. 2,4,5-Triisopropyl-6-nitroacetanilide loses a nitro group in boiling ethanolic HCl and this may represent the first reported case of protodenitration.
 IT **5805-65-2P**
 RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)
 RN 5805-65-2 HCAPLUS
 CN Benzimidazole, 4,5,7-triisopropyl-2-methyl- (8CI) (CA INDEX NAME)



L12 ANSWER 22 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1966:13117 HCAPLUS
 DOCUMENT NUMBER: 64:13117
 ORIGINAL REFERENCE NO.: 64:2434f-g
 TITLE: Screening of antipolio virus activity of benzimidazole derivatives
 AUTHOR(S): Otaki, Kenya; Inoue, Junnosuke; Yamazaki, Zenichi; Itaya, Motoichi; Takai, Yoshiharu; Yasue, Masaichi; Mizuno, Denichi
 CORPORATE SOURCE: Natl. Inst. Health, Tokyo
 SOURCE: Yakugaku Zasshi (1965), 85(10), 926-35
 CODEN: YKKZAJ; ISSN: 0031-6903
 DOCUMENT TYPE: Journal
 LANGUAGE: Japanese
 AB Antipolio virus activity of 112 benzimidazole derivs. was examined by employing a simple screening method which indicates inhibition of the plaque formation by polio virus Type I (Mahoney strain). Rate of inhibition was calculated by the equation: [(number of plaque in sample)/(number of plaque in control)] + [(mean diameter in mm. of sample plaque)²/(mean diameter in mm. of control plaque)²]. Among the compds. tested, 2-(p-aminophenyl)benzimidazole showed an antipolio virus activity comparable to that of 2-(o-hydroxybenzyl)benzimidazole.
 IT **5805-65-2**, Benzimidazole, 4,5,7(or 4,6,7)-triisopropyl-2-methyl- (as virucide)
 RN 5805-65-2 HCAPLUS
 CN Benzimidazole, 4,5,7-triisopropyl-2-methyl- (8CI) (CA INDEX NAME)



L12 ANSWER 23 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1962:449305 HCAPLUS

DOCUMENT NUMBER: 57:49305

ORIGINAL REFERENCE NO.: 57:9840a-f

TITLE: Synthetic studies in benzimidazole series. I.
Synthesis of 5(6)-substituted-2-methylbenzimidazoles

AUTHOR(S): Itaya, Motoichi

CORPORATE SOURCE: Nagoya City Univ.

SOURCE: Yakugaku Zasshi (1962), 82, 1-5

CODEN: YKKZAJ; ISSN: 0031-6903

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB 4-AcNHC₆H₄CN (40 g.) in 300 g. concentrated H₂SO₄ at -5° treated dropwise with a mixture of 65 g. HNO₃ (d. 1.51) and 65 g. H₂SO₄ (d. 1.84), stirred 3 h., and the solution poured into ice H₂O gave 34.2 g. 3,4-O₂N(AcNH)C₆H₃CN, needles, m. 130-1° (EtOH). MeCONHC₆H₄I-4 (5.2 g.) in 10 mL. Ac₂O and 5 mL. AcOH at 22° treated dropwise with 2 mL. HNO₃ and 5 mL. AcOH, kept overnight, the product poured into ice H₂O, the precipitate taken up in EtOH, the EtOH removed, and the residue extracted with CHCl₃ gave 1.5 g. MeCONHC₆H₃(NO₂)I-2,4, needles, m. 112° (petr. ether). MeCONHC₆H₃(NO₂)R-2,4 in H₂O or dilute EtOH while refluxing treated dropwise with 3 equivs. saturated aqueous Na₂S₂O₄, refluxed 8 h., the precipitate treated with

NH₄OH, filtered, washed with H₂O and extracted with solvent gave

5(6)-R-derivative

of 2-methylbenzimidazole (I) (R, % yield, m.p., and m.p. of HCl salt and picrate given): Me, 48, 200-1°, 242-3°, 205-6°; Et, 39, --, 157-60°, 159-60°; iso-Pr, 47, 63-5°, 168-70°, 182-3°; Pr, 64.7, 101-3°, 165-70°, 157-8°; tert-Bu, 61.2, 158°, 184-6°, 172-2.5°; iso-Bu, 40.5, 143-4°, 162°, 182.5-3°; Bu, 53.3, --, 177°, 161-2°; sec-Bu, 30, --, 151-4°, 159-60°; isoamyl, 42.5, 99-101°, 185-7°, 146°; amyl, 33.6, --, 159-61°, 142-3°; HO, 40.9, 194-5°, 256°, 217°; MeO, 54.5, 137-8°, 202-4°, 184-5°; EtO, 60, 153-5°, 220-2°, 178-9°; AcNH, 51.3, 250°, 243-5°, 282-3°; CN, 54.5, 238.5-9°, 228-30°, 218-20°; H₂NCO, 40.5, 242-3°, 222°, 258-60°; CO₂H, 74.2, 308° (decomposition), 326° (decomposition), 240-1°; Ac, 76.4, 195-6°, 218-20°, 248°; EtCO, 72.2, 141-2°, 215-18°, 237-8°; PrCO, 80, 177-8°, 201-4°, 245-6°; iso-BuCO, 71.4, 175-6°, 220°, 227-8°; BuCO, 70, 160.5-1°, 206-7°, 225-6°; C₅H₁₁CO, 92, 152°, 271°, 172°; Bz, 73.3, 87.5-8°, 186-7°, 217-19°; Cl, 54.5, 210-11°, 275-80°, 209-10°; Br, 65, 223-4°, 207-8°, 229-31°; iodine, 72, 238-9°, 209-10°, 230°.

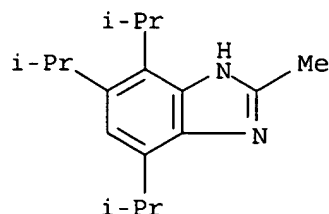
MeCONHC6H3(NO2)Pr-iso-2,4 (4.4 g.) in 10 mL. H2O treated dropwise with a saturated solution containing 8 g. Na2S2O4, kept 1 h., and the product filtered off

gave 1.2 g. MeCONHC6H3(NH2)Pr-iso-2,4, leaves, m. 125°. Similarly was prepared 2-methyl-4,5,7-triisopropylbenzimidazole, m. 168-9°.

IT 5805-65-2, Benzimidazole, 4,5,7(or 4,6,7)-triisopropyl-2-methyl- (preparation of)

RN 5805-65-2 HCAPLUS

CN Benzimidazole, 4,5,7-triisopropyl-2-methyl- (8CI) (CA INDEX NAME)



L12 ANSWER 24 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1953:66641 HCAPLUS

DOCUMENT NUMBER: 47:66641

ORIGINAL REFERENCE NO.: 47:11327i,11328a-c

TITLE: Inhibition of influenza virus multiplication by alkyl derivatives of benzimidazole. III. Relation between inhibitory activity and chemical structure

AUTHOR(S): Tamm, Igor; Folkers, Karl; Shunk, Clifford H.; Heyl, Dorothea; Horsfall, Frank L., Jr.

CORPORATE SOURCE: Hosp. Rockefeller Inst. Med. Research, New York, NY

SOURCE: Journal of Experimental Medicine (1953), 98, 245-59

CODEN: JEMEAV; ISSN: 0022-1007

DOCUMENT TYPE: Journal

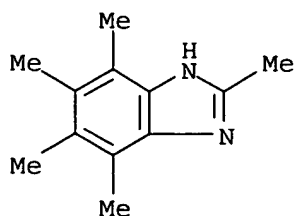
LANGUAGE: Unavailable

AB The degree of inhibition of multiplication of influenza B virus, Lee strain, in membrane cultures in vitro was directly related to the concentration of the inhibitory compds. used. With each of the alkyl derivs. of benzimidazole (II), evidence for such a relation was obtained in the range between 60 and 90% inhibition. Alteration of the structure of II by substitution of alkyl radicals at various positions in either the benzene or the imidazole ring resulted in diverse differences in the capacity to inhibit influenza-virus multiplication in vitro. Minor increases in inhibitory activity resulted when 1 to 3 Me groups were introduced and marked increases were achieved by more extensive substitutions. Among the more highly active compds. were 2,4,5,6,7-pentamethylbenzimidazole and 2-ethyl-5-methylbenzimidazole. Further extension of the alkyl chain at position 2 caused no significant change in the inhibitory activity of II. The most active compds. caused 75% inhibition of virus multiplication in membrane cultures in vitro at concns. of approx. 0.0002M.

IT 69700-34-1, Benzimidazole, 2,4,5,6,7-pentamethyl- (influenzavirus inhibition by)

RN 69700-34-1 HCAPLUS

CN 1H-Benzimidazole, 2,4,5,6,7-pentamethyl- (9CI) (CA INDEX NAME)



L12 ANSWER 25 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1940:51648 HCAPLUS

DOCUMENT NUMBER: 34:51648

ORIGINAL REFERENCE NO.: 34:7891g-i,7892a

TITLE: Polyalkylbenzenes. XXX. Nitration of tetra-, penta- and hexaethylbenzenes; bromination of the tetraethylbenzenes

AUTHOR(S): Smith, Lee Irvin; Guss, Cyrus O.

SOURCE: Journal of the American Chemical Society (1940), 62, 2635-8

CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB Nitration of C6Et6, C6HET5 and 1,2,4,5-C6H2Et4 with HNO3 in H2SO4CHCl3 gives 17, 69.7 and 61%, resp., of 3,6-(O2N)2C6Et4; the yield when C6HET5 is added to the nitrating mixture is only 16%. 1,2,3,5-C6H2Et4 gives 35% of the 4,6-di-NO2 derivative, light yellow, m. 93.5-4.5°; the 1,2,3,4-isomer gives 68% of the 5,6-di-NO2 derivative (I), m. 117-18°; reduction of 4 g. of I with SnCl2 in HCl-EtOH gives 2.5 g. of the 5,6-di-NH2 derivative, m. 69-70°, which yields 10,11,12,13-tetraethylphenanthrophenazine, yellow, m. 169-70°; reduction of I in HCl-AcOH with SnCl2 gives 4,5,6,7-tetraethyl-2-methylbenzimidazole, m. 241-2°. Bromination of 1,2,4,5-C6H2Et4 in CHCl3 (temperature rise should be avoided) gives 92-6% of the 3-Br derivative, b10 151°, nD20 1.5425, m. 9° (cooling curve given). 4-Bromo-1,2,3,5-tetraethylbenzene, b9 150°, b15 152°, nD20 1.5425. 5,1,2,3,4-BrC6HET4, b9 152°, nD20 1.5453. 5,6,1,2,3,4-Br2C6Et4, m. 76-7°; 4,6-dibromo-1,2,3,5-tetraethylbenzene, m. 48-9.5°; these were prepared by the use of 2 mol of Br at room temperature in 87-95% yields.

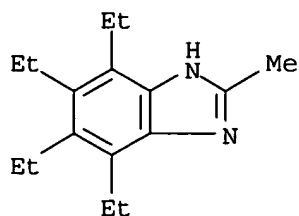
Binary

mixts. of the di-NO2 compds. show good m.-p. depressions and fairly narrow m.-p. ranges; those of the di-Br compds., however, show only slight m.-p. depressions and have a very wide m.-p. range.

IT **860188-24-5**, Benzimidazole, 4,5,6,7-tetraethyl-2-methyl- (preparation of)

RN 860188-24-5 HCAPLUS

CN Benzimidazole, 4,5,6,7-tetraethyl-2-methyl- (4CI) (CA INDEX NAME)



L12 ANSWER 26 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1939:14209 HCAPLUS

DOCUMENT NUMBER: 33:14209

ORIGINAL REFERENCE NO.: 33:2112e-i

TITLE: Polymethylbenzenes. XXIII. Preparation and physical properties of 3- and 5-ethylpseudocumenes and of ethylmesitylene

AUTHOR(S): Smith, Lee I.; Kiess, Matthew A.

SOURCE: Journal of the American Chemical Society (1939), 61, 284-8

CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

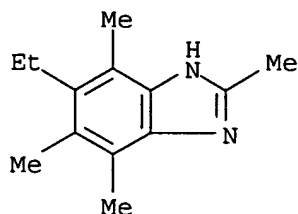
AB cf. C. A. 33, 1681.7. The 5-sulfonic acid (I) from 160 g. pseudocumene (II) in 100 cc. H₂O and 100 cc. HCl, treated with 223 g. of Br in 50 cc. H₂O and 50 cc. HCl, gives a precipitate of 60% of the 5-Br derivative (III) of II;

the mother liquor gives 33% of the 3-Br derivative of I, hydrolyzed with 50% H₂SO₄ at 175-80° to the 3-Br derivative (IV) of II. The Grignard reagent from III and Et₂SO₄ give approx. 35% of 5-ethylpseudocumene (V); IV gives 50% of the 3-Et derivative (VI). Bromomesitylene gives approx. 40% of ethylmesitylene (VII). Clemmensen reduction of 5-acetopseudocumene gives 77% (70% overall) of V, while acetomesitylene gives 74% (66% over-all) of VII. VII, b₇₂₅ 210°, f. p. -15.56°, n_{D20} 1.5074, d₂₀₂₀ 0.894, log₁₀ p = 5.329 - 0.226u - 0.4656u² (u = 1000/T). V, b₇₂₅ 210°, f. p. -13.58°, n_{D20} 1.5075, d₂₀₂₀ 0.889, log₁₀ p = 4.928 + 0.136u - 0.548u². VI, b₇₂₅ 214°, liquid at -50°, n_{D20} 1.5133, d₂₀₂₀ 0.900, log₁₀ p = 4.303 + 0.671u - 0.664u². Vapor pressure data are given for the range 5-725 mm. and values for n at 4° intervals from 0° to 30°; the average change in nD per degree over this range is -0.00043 for each of the hydrocarbons. VI in CHCl₃ with H₂SO₄HNO₃ gives 28% of the 5,6-di-NO₂ derivative, m. 79-80°. Reduction with SnCl₂ and HCl in EtOH (refluxing 3 hrs.) gives the 5,6-di-NH₂ derivative (VIII), m. 84-5°, but reduction in AcOH gives 5-ethyl-2,4,6,7-tetramethylbenzimidazole, m. 205.5°. VIII and phenanthraquinone in AcOH-EtOH give 11-ethyl-10,12,13-trimethylphenanthrophenazine, m. 242°. VI (3 g.) on sulfonation and bromination gives 6 g. of the 5,6-di-Br derivative, m. 65-6°. Oxidation of VI gives prehnitic acid, V gives pyromellitic acid and VII yields mellophanic acid; the yield in each case is poor.

IT 860188-62-1, Benzimidazole, 5-ethyl-2,4,6,7-tetramethyl- (preparation of)

RN 860188-62-1 HCAPLUS

CN Benzimidazole, 5-ethyl-2,4,6,7-tetramethyl- (4CI) (CA INDEX NAME)



L12 ANSWER 27 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1935:44886 HCAPLUS

DOCUMENT NUMBER: 29:44886

ORIGINAL REFERENCE NO.: 29:5820d-f

TITLE: Polymethylbenzenes. XI. The nitration of pentamethylbenzene and of hexamethyl- and hexaethyl-benzene

AUTHOR(S): Smith, Lee I.; Harris, S. Arthur

SOURCE: Journal of the American Chemical Society (1935), 57, 1289-92

CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

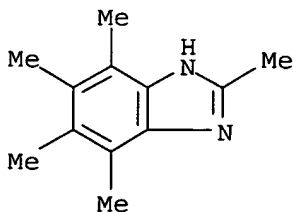
OTHER SOURCE(S): CASREACT 29:44886

AB cf. C. A. 29, 130.9. Nitration of 10 g. of C₆HMe₅ with 30 g. HNO₃ (d. 1.52) and 130 g. concentrated H₂SO₄, covered with an equal volume of CHCl₃, at 5° gives 65-74% of dinitrophenitene (I), m. 176-7°; reduction of I with SnCl₂ in concentrated HCl gives 2,4,5,6,7-pentamethylbenzimidazole (II), m. 264°; HCl salt, with 2 mols. H₂O; methiodide, does not m. 350°; Me H sulfate, m. 258-61° (decomposition); 2-styryl derivative, light yellow, m. 279-80°. Me₂SO₄ and I in MeOH, refluxed 0.5 hr., give 1,2,4,5,6,7-hexamethylbenzimidazole, m. 165°. Nitration of C₆Me₆ yields 22% of I. C₆Et₆ gives 13% of p-dinitrotetraethylbenzene, m. 143-5° (Galle, Ber. 16, 1748(1883)). 2,3,4,5-Me₄C₆HCO₂H gives I quantitatively on nitration. The mechanism of the nitration is discussed.

IT **69700-34-1**, Benzimidazole, 2,4,5,6,7-pentamethyl- (and derivs.)

RN 69700-34-1 HCAPLUS

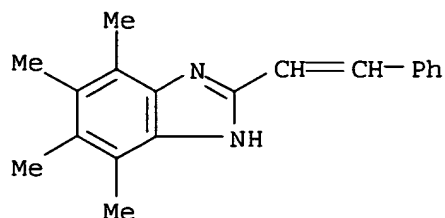
CN 1H-Benzimidazole, 2,4,5,6,7-pentamethyl- (9CI) (CA INDEX NAME)



IT **860599-77-5**, Benzimidazole, 4,5,6,7-tetramethyl-2-styryl- (preparation of)

RN 860599-77-5 HCAPLUS

CN Benzimidazole, 4,5,6,7-tetramethyl-2-styryl- (3CI) (CA INDEX NAME)



L12 ANSWER 28 OF 28 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1914:26195 HCAPLUS

DOCUMENT NUMBER: 8:26195

ORIGINAL REFERENCE NO.: 8:3790a-i,3791a-d

TITLE: Quinzolines, XXXII. Some quinazolones, benzimidazoles and related compounds derived from s-pseudocumidine
 AUTHOR(S): Bogert, Marston T.; Bender, Andrew
 CORPORATE SOURCE: Columbia Univ.
 SOURCE: Journal of the American Chemical Society (1914), 36, 568-84

CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

GI For diagram(s), see printed CA Issue.

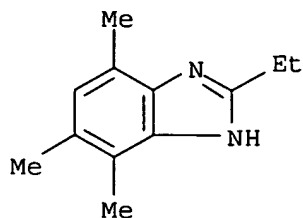
AB cf. C. A., 8, 1577. The following compds. are new. (M. p. are corrected)
 2,4,5,7-Tetramethylbenzimidazole methiodide, from the imidazole (a) b. 5 hrs. with MeI in C₆H₆, needles from 50% alc., darkens above 330°, does not m. 350°, while 5 g. of (a) b. 6 hrs. in 200 cc. xylene with 4 g. Na and 20 cc. MeI gives 5 g. of 1,2,4,5,7-pentamethylbenzimidazole methiodide. straw-colored, m. 274-5°. 2-Cinnameryl-4,5,7-trimethylbenzimidazole, from (a) and BzH after 2 hrs. at 180°, m. 257.5°. 2-p-Nitrocinnameryl compound, obtained after 2 hrs. at 210°, yellow powder from alc., darkens 280°, m. 303-5° (uncor.). 2,4,5,7-Tetramethylbenzimidazolephthalone, obtained in 2.8 g. yield from 5.8 g. (a) and 4.36 g. C₆H₄(CO)₂O after 3 hrs. at 180°, yellow crystals from 95% alc., m. 296-7°, insol. in cold aqueous alks. Propionopseudocumidine (b), in 36 g. yield from 30 g. Me₃C₆H₂NH₂ and (EtCO)₂O, needles from 50% ACOH, m. 144°; 6 g. slowly added to 10 cc. fuming HNO₃ at -12° gives 6.5 g. of 6-nitro-5-propionamino-1,2,4-trimethylbenzene, prisms from alc., m. 167°, unchanged by 3 hrs. b. with 20% HCl; 10 g. treated with Sn in 30 cc. of concentrate HCl gives 6.8 g. of 2-ethyl-4,5,7-trimethylbenzimidazole hydro chloride, m. 318-20° (decompose); alks. precipitate the free base, glassy from alc., m. 197°; chloroplatinate, yellow powder, m. 245-6° (evolution of HCl); methiodide, needles from 80% alc., darkens above 300°, m. 345-6° (decompose). 3-Chloroacetyl-5-propionamino-1,2,4-trimethylbenzene, in 13.5 g. yield from 10 g. (b), 16 g. ClCH₂COCl and 60 g. AlCl₃, in 200 cc. CS₂, silky needles from alc., m. 181°; b. a few min. with 20% HCl splits off the EtCO group, while 5 g. added slowly to 10 cc. fuming HNO₃ at -12° gives 3.2 g. of the 6-nitro compound, silky needles from dilute alc., m. 193.2°. In the oxidation of Me₃C₆H₂NHAc (see below) there is also usually formed 3,4-dimethyl-6-acetaminobezoic acid, m. 248-50° (decompose); methyl ester, silky needles from 50% alc., m. 120°. When b. in Ac₂O the acid gives, in poor yield, 3,4-nimethylacetoanthranil (c), m. 263.5°, converted by b. in concentrate NH₄OH with a little KOH into 2-acetamino-4,5-dimethylbenzamide,

microscopic cream-colored needles from 95% alc., blackens 340°. 2-Acetamino-4,5-dimethylbenzomethylomide, $\text{Me}_2(\text{AcNH})\text{C}_6\text{H}_2\text{CONHMe}$, from 3 g. (c) and 10 cc. 33% MeNH_2 b. a few min. with a few cc. of 10% KOH , microscopic needles, m. 320-2° (decompose); when 5 g. of (c) in 10 cc. of 33% MeNH_2 is b. 2 hrs. with 5 cc. of 1:1 KOH , a poor yield of 2,3,6,7-tetramethyl-4-quinazolone, microscopic needles from 50% alc., m. 210-2°. is formed. 2-Acetamino-4,5-dimethylbenzanilide, from (c) in PhNH_2 b. 20 min. with 10% KOH , cream-colored microcrystals, m. 307° (decompose). 2-Acetamino-4,5-dimethylbenzylhydrazide, from (c) in excess of 50% $\text{N}_2\text{H}_4 \cdot \text{H}_2\text{O}$ warmed a short time with a little KOH , microscopic needles from 50% alc., m. 297° (decompose), converted by a b. 10% KOH into 3-amino-2,6,7-trimethyl-4-quinazolone, microscopic needles from 50% alc., m. 215° (uncor.). 4-Methyl-6-acetaminoisophthalic acid (d), microscopic needles, shrinks about 250-5°, m. about 278-80° (decompose), is the chief product of the oxidation of $\text{Me}_3\text{C}_6\text{H}_2\text{NHAc}$ with KMnO_4 , but even under the best conditions (at 95-100° in the presence of MgSO_4) the yield is only 25%. Dimethyl ester, silky hairs from 50% alc., m. 138°, is obtained from the acid and Me_2SO_4 , in Na_2CO_3 or by acetylating $\text{Me}(\text{H}_2\text{N})\text{C}_6\text{H}_2(\text{CO}_2\text{H})_2$. Diethyl ester, needles from 50% alc., m. 116.5°. B. about 1 min. in 9 cc. concentrate H_2SO_4 and 6 cc. H_2O , the acid is hydrolyzed to the amino acid, needles from H_2O , m. 305-8°; hydrochloride, obtained by b. the acid 4 hrs. with concentrate HCl , needles from concentrate HCl , m. 196-7° (decompose). Dimethyl ester, obtained by treating (d) in hot MeOH for 2 hrs. with HCl , silky hairs from 50% alc., m. 150°; the soda mother liquor obtained in liberating the ester from its HCl salt contains a substance precipitated by acids and separating from dilute alc. in needles, m. 217° (uncor.); it is possibly an acid ester. Diethyl ester, straw-yellow needles from dilute alc., m. 103.5°. 4-Methyl-6-aminoisophthalic acetoanthranil (e), from (d) heated in Ac_2O below the b. p. until the Ac_2O is reduced to 0.5 its original volume, microscopic yellowish needles from Ac_2O , m. 285-6°, rapidly converted back into (d) by moisture; b. 10 min. in concentrate NH_3 , it gives 2-ethyl-4-acetamino-5-carbaminobenzoic acid, microscopic crystals from 60% alc., m. 303-5°, whereas when b. 1 hr. with the addition of a little KOH it forms 2,7-dimethyl-4-quinazolone-6-carboxylic acid, chars 340°. 2,3,7-Trimethyl acid, from (e) b. 10 min. in 33% NH_2Me with a little KOH , microscopic crystals from 95% alc., m. 299.5°, easily soluble in alks. and reprecipitated by acids. 2,7-Dimethyl-3-ethyl acid, silky needles from 30% alc., m. 250.8° (uncor.) with decompose 3-Phenyl acid, pale yellow needles from 80% alc., m. 300-1°. 3-Amino acid, silky needles from dilute alc., m. 306° (decompose); acetyl derivative, minute plates from alc., m. 220° (uncor.); benzal derivative, straw-colored needles from $\text{BzH} \cdot \text{EtOH}$ (1:4), m. 237.5°, decompose 278°, decolorizes Br . Dimethyl 4-methyl-6-phenyluraminoisophthalate, from the 6- NH_2 ester and PhNCO b. 2 hrs. in C_6H_6 , rosettes of microscopic needles from 95% alc., m. 192.5°, not hydrolyzed by 3 hrs. b. with dilute HCl . Diethyl ester, microscopic needles from 95% alc., m. 177-8°; yield, 2.6 g. from 3 g. of the NH_2 compound. 5-Acetaminobenzene-1,2,4-tricarboxylic 1,2-anhydride was obtained in 1 case in the prepare of (d), when the oxidation was carried out at 62.4°, as prisms falling on drying to a powder, m. 240-2° (decompose); the original prisms were probably the acid itself. Attempts to repeat its prepare have thus far failed.

IT 861530-13-4, Benzimidazole, 2-ethyl-4,5,7-trimethyl-
(and derivs.)

RN 861530-13-4 HCAPLUS

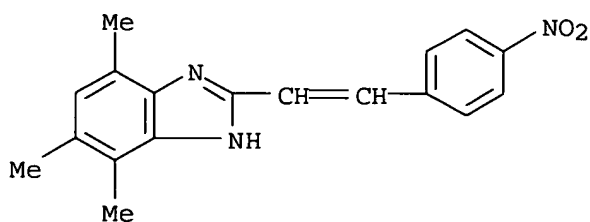
CN Benzimidazole, 2-ethyl-4,5,7-trimethyl- (1CI) (CA INDEX NAME)



IT 861371-63-3, Benzimidazole, 4,5,7-trimethyl-2-(p-nitrostyryl)-
861566-92-9, 1,3-Indandione, 2-(4,5,7-trimethylbenzimidazolyl)-
861606-04-4, Benzimidazole, 4,5,7-trimethyl-2-styryl-
861606-25-9, Benzimidazole, 2-[(2,3-dihydro-1,3-diketo-2-indenyl)methyl]-4,5,7-trimethyl-
(preparation of)

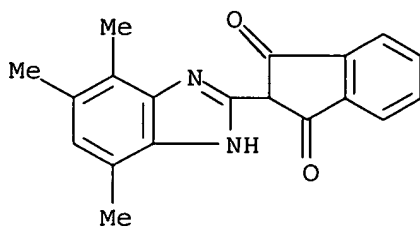
RN 861371-63-3 HCAPLUS

CN Benzimidazole, 4,5,7-trimethyl-2-(p-nitrostyryl)- (1CI) (CA INDEX NAME)



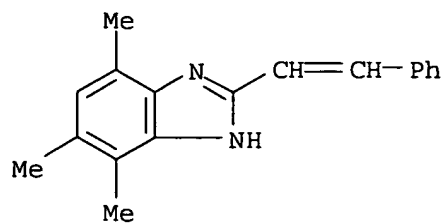
RN 861566-92-9 HCAPLUS

CN 1,3-Indandione, 2-(4,5,7-trimethylbenzimidazolyl)- (1CI) (CA INDEX NAME)



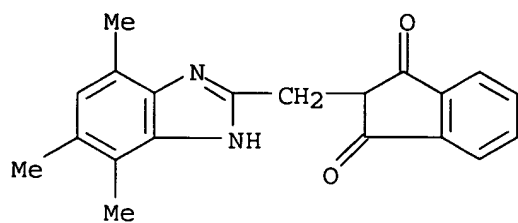
RN 861606-04-4 HCAPLUS

CN Benzimidazole, 4,5,7-trimethyl-2-styryl- (1CI) (CA INDEX NAME)



RN 861606-25-9 HCAPLUS

CN Benzimidazole, 2-[(2,3-dihydro-1,3-diketo-2-indenyl)methyl]-4,5,7-trimethyl- (1CI) (CA INDEX NAME)



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L54 ANSWER 1 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:368499 HCAPLUS

DOCUMENT NUMBER: 142:419743

TITLE: Organic **electroluminescent** device and amine compound

INVENTOR(S): Shimamura, Takehiko; Tanabe, Yoshimitsu; Tsukada, Hidetaka; Totani, Yoshiyuki

PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 56 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005116247	A2	20050428	JP 2003-346623	20031006 <--
PRIORITY APPLN. INFO.:			JP 2003-346623	20031006 <--

AB The invention relates to an organic **electroluminescent** device comprising an amine compound used as a hole injection/transport material and/or an **electroluminescent** material, wherein the amine compound is represented by Z1Z2NY1Ar(NZ3Z4)Y2NZ5Z6 [Ar = trivalent benzene ring; Y1 and Y2 = arylene; Z1-6 = aryl; Z1 and Z2, Z3 and Z4, and Z4 and Z5 may join to form N-containing heterocyclic rings].

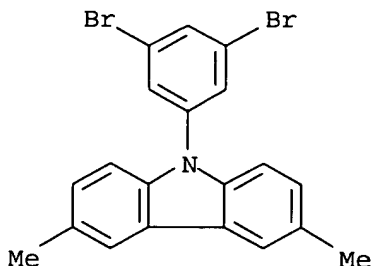
IT 850552-81-7

RL: RCT (Reactant); RACT (Reactant or reagent)

(organic **electroluminescent** device and amine compound)

RN 850552-81-7 HCAPLUS

CN 9H-Carbazole, 9-(3,5-dibromophenyl)-3,6-dimethyl- (9CI) (CA INDEX NAME)



L54 ANSWER 2 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:348865 HCAPLUS

DOCUMENT NUMBER: 142:419717

TITLE: 3, 6-diphenylcarbazole compounds and their use in organic **electroluminescent** device

INVENTOR(S): Sasaki, Masaomi; Torii, Masafumi; Sagisaka, Toshiya; Okada, Takashi; Kawamura, Shinichi; Adachi, Chihaya; Kawamura, Yuuichiroh; Muneuchi, Kenji

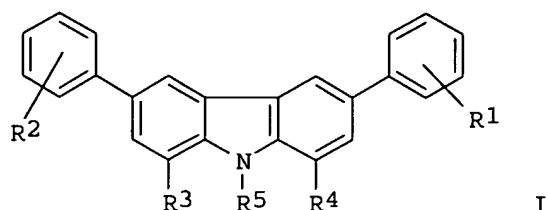
PATENT ASSIGNEE(S): Japan

SOURCE: U.S. Pat. Appl. Publ., 51 pp.

DOCUMENT TYPE: CODEN: USXXCO
 LANGUAGE: Patent
 FAMILY ACC. NUM. COUNT: English
 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005084711	A1	20050421	US 2004-933230	20040903 <--
JP 2005154412	A2	20050616	JP 2004-245423	20040825 <--
JP 2005158691	A2	20050616	JP 2004-245438	20040825 <--
PRIORITY APPLN. INFO.:			JP 2003-314495	A 20030905 <--
			JP 2003-373735	A 20031031 <--
			JP 2003-373745	A 20031031 <--
			JP 2004-245423	A 20040825
			JP 2004-245438	A 20040825

GI



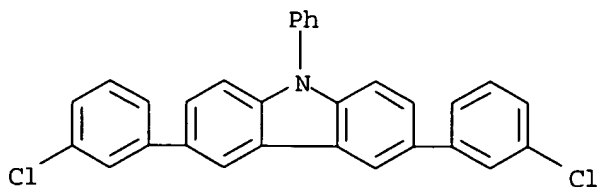
AB A 3,6-diphenylcarbazole compound represented by formula (I) are described where R1,2 independently represent H, a substituted or unsubstituted alkyl group, a substituted or unsubstituted alkoxy group, or an aryl group which may have a halogen atom or a substituent; R3,4 independently represent H, a substituted or unsubstituted alkyl group, or an aryl group which may have a substituent; and R5 is H, substituted or unsubstituted alkyl group or an aryl group which may have a substituent. **Electroluminescent** devices employing the 3,6-diphenylcarbazole compound in the luminescent layer, the hole transporting layer and/or the electron transporting layer are also discussed.

IT **850264-82-3P**

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (3, 6-diphenylcarbazole compound and organic **electroluminescent** device)

RN 850264-82-3 HCAPLUS

CN 9H-Carbazole, 3,6-bis(3-chlorophenyl)-9-phenyl- (9CI) (CA INDEX NAME)

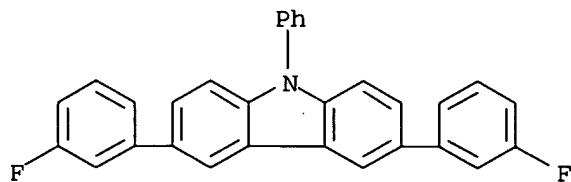
IT **850264-90-3P**

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(3, 6-diphenylcarbazole compound and organic **electroluminescent** device)

RN 850264-90-3 HCAPLUS

CN 9H-Carbazole, 3,6-bis(3-fluorophenyl)-9-phenyl- (9CI) (CA INDEX NAME)



L54 ANSWER 3 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:344276 HCAPLUS

DOCUMENT NUMBER: 142:400286

TITLE: Carbazole derivatives used as host material of phosphorescent substance in organic **electroluminescent** devices

INVENTOR(S): Chiu, Yung; Chiao, Chuan; Wang, Chien-Hua; Wang, Li-Tuo; Tuan, Lien; Lei, Kang-Tieh

PATENT ASSIGNEE(S): Ching-Hua University, Peop. Rep. China; Beijing Wei-Xin-nuo Science and Technology Co., Ltd.

SOURCE: Jpn. Kokai Tokkyo Koho, 37 pp.

CODEN: JKXXAF

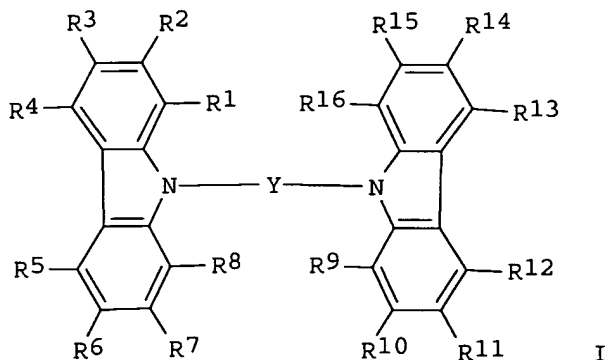
DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005104971	A2	20050421	JP 2004-258365	20040906 <--
CN 1490312	A	20040421	CN 2003-156364	20030905
US 2005127826	A1	20050616	US 2004-933867	20040903 <--
PRIORITY APPLN. INFO.:			CN 2003-156364	A 20030905 <--
OTHER SOURCE(S):	MARPAT	142:400286		
GI				



AB Disclosed is a carbazole derivative, suited for use as a host material of a

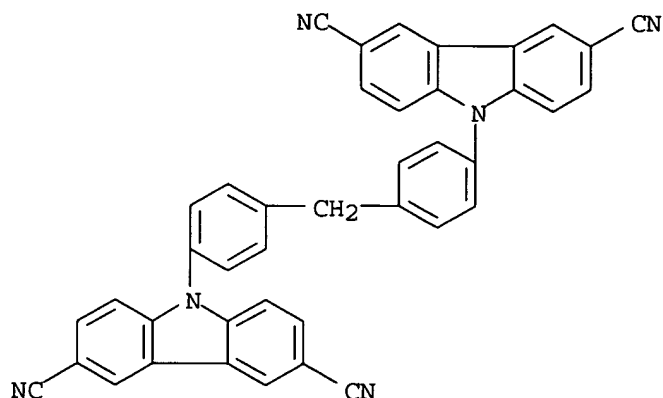
phosphorescent substance in an organic **electroluminescent** device, characterized in that the glass transition temperature and the lowest excited triplet state energy are 70-220 °C and ≥ 2.62 eV, resp., and represented by I [Y = linking group containing alkylene, arylene, and spiro structure; and R1-16 = H, alkyl, alkoxy, etc.].

IT 849820-45-7P 849820-48-0P

RL: DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (carbazole derivs. used as host material of phosphorescent substance in organic **electroluminescent** devices)

RN 849820-45-7 HCAPLUS

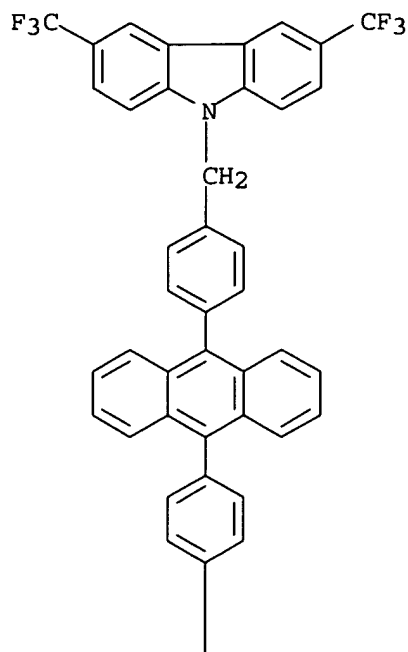
CN 9H-Carbazole-3,6-dicarbonitrile, 9,9'-(methylenedi-4,1-phenylene)bis- (9CI) (CA INDEX NAME)



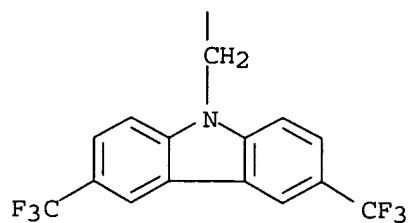
RN 849820-48-0 HCAPLUS

CN 9H-Carbazole, 9,9'-[9,10-anthracenediylbis(4,1-phenylenemethylene)]bis[3,6-bis(trifluoromethyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



L54 ANSWER 4 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:302625 HCAPLUS
DOCUMENT NUMBER: 142:363935
TITLE: Blue-emitting organic **electroluminescence**
elements with high brightness and long emission life,
and displays and electric lights using them
INVENTOR(S): Oshiyama, Tomohiro; Kato, Eisaku; Kita, Hiroshi
PATENT ASSIGNEE(S): Konica Minolta Holdings, Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 38 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2005093159 A2 20050407 JP 2003-322749 20030916 <--
PRIORITY APPLN. INFO.: JP 2003-322749 20030916 <--
OTHER SOURCE(S): MARPAT 142:363935

AB The **electroluminescence** (EL) elements have luminescent layers containing host compds. and phosphorescence compds., wherein any layers consisting the elements contain ArR_m(Ar1)(Ar2)(Ar3)(Ar4)(Ar5) [Ar = 5-membered aromatic ring containing ≥1 N (e.g., carbazole, pyrrole); Ar1-5 = aryl, heteroaryl; m ≥0; R = H, substituent].

IT 849071-30-3 849071-31-4 849071-35-8

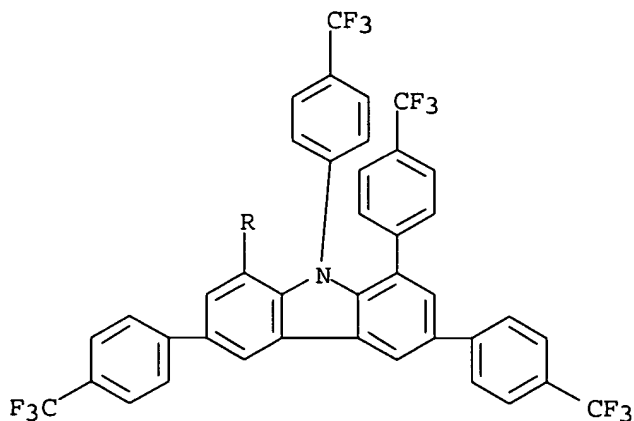
RL: DEV (Device component use); USES (Uses)

(blue-emitting organic EL devices with high brightness and long emission life using phosphorescent materials)

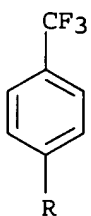
RN 849071-30-3 HCAPLUS

CN 9H-Carbazole, 1,3,6,8,9-pentakis[4-(trifluoromethyl)phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A

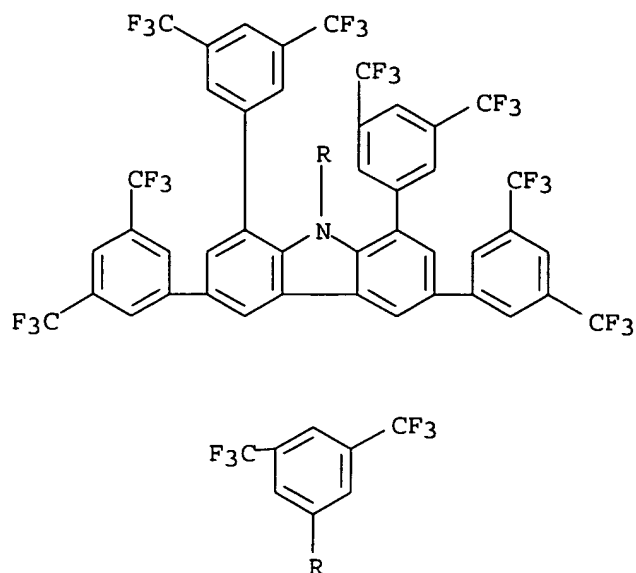


PAGE 2-A

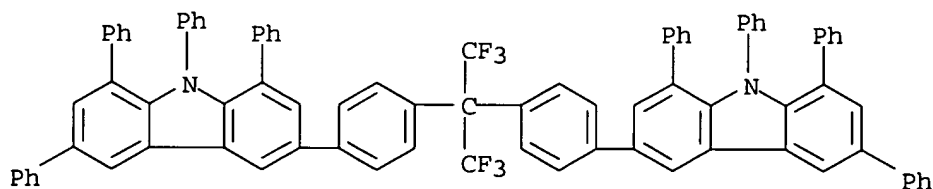


RN 849071-31-4 HCAPLUS

CN 9H-Carbazole, 1,3,6,8,9-pentakis[3,5-bis(trifluoromethyl)phenyl]- (9CI)
(CA INDEX NAME)



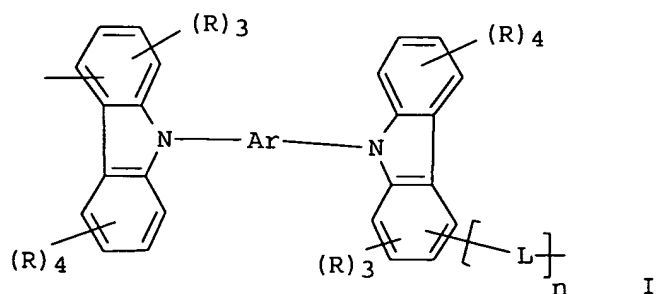
RN 849071-35-8 HCAPLUS
 CN 9H-Carbazole, 3,3'-[[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]di-4,1-phenylene]bis[1,6,8,9-tetraphenyl- (9CI) (CA INDEX NAME)



L54 ANSWER 5 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2005:235606 HCAPLUS
 DOCUMENT NUMBER: 142:325639
 TITLE: Charge carrier material, organic
electroluminescent element, and indicator
 panel
 INVENTOR(S): Suzuki, Satoshi
 PATENT ASSIGNEE(S): Dainippon Printing Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 21 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005071909	A2	20050317	JP 2003-302682	20030827 <--
PRIORITY APPLN. INFO.:			JP 2003-302682	20030827 <--

GI



AB The invention refers to a charge carrier material I [Ar = C4-6 arylene or heterocycle; L = branched or cyclic divalent hydrocarbon or hetero-atom-containing hydrocarbon; n = 0 or 1; R = H, C1-20 aryl, alkoxy, C6-60 aryl, aryloxy, C7-60 arylalkyl, arylalkoxy, C4-60 heterocyclic, cyano, nitro or halo] for an **electroluminescent** device for indicator panels.

IT **848086-87-3P 848086-89-5P**

RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(charge carrier material, organic **electroluminescent** element, and indicator panel)

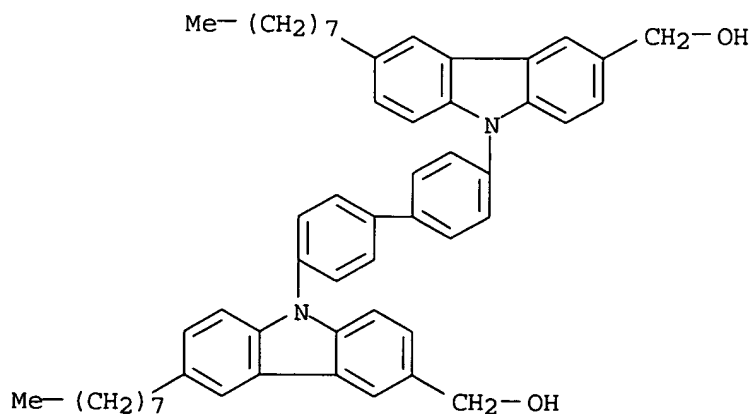
RN 848086-87-3 HCAPLUS

CN Hexanedioyl dichloride, polymer with 9,9'-[1,1'-biphenyl]-4,4'-diylbis[6-octyl-9H-carbazole-3-methanol] (9CI) (CA INDEX NAME)

CM 1

CRN 848086-86-2

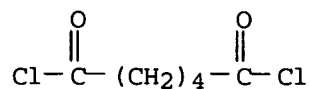
CMF C54 H60 N2 O2



CM 2

CRN 111-50-2

CMF C6 H8 Cl2 O2



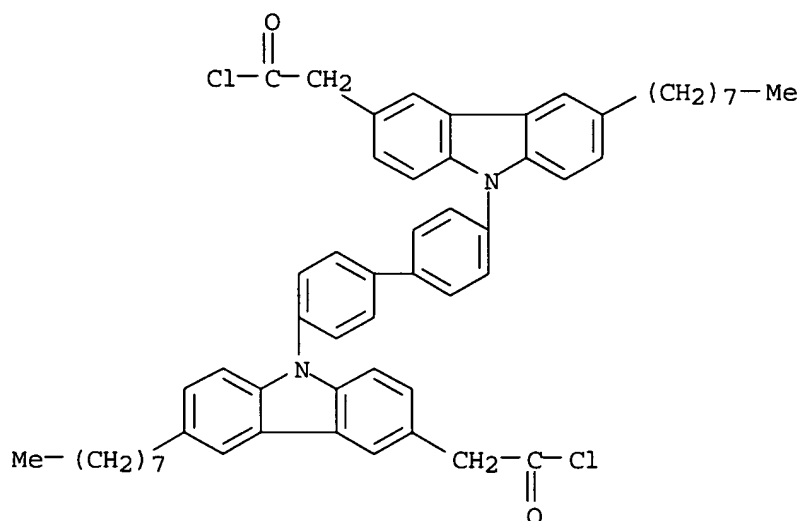
RN 848086-89-5 HCAPLUS

CN 9H-Carbazole-3-acetyl chloride, 9,9'-[1,1'-biphenyl]-4,4'-diylbis[6-octyl-, polymer with 1,6-hexanediol (9CI) (CA INDEX NAME)

CM 1

CRN 848086-88-4

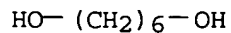
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CM 2

CRN 629-11-8

CMF C6 H14 O2



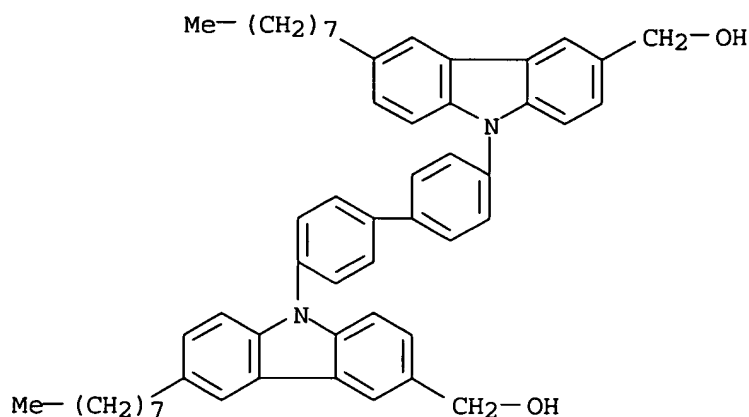
IT 848086-86-2P 848086-88-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(charge carrier material, organic **electroluminescent** element, and indicator panel)

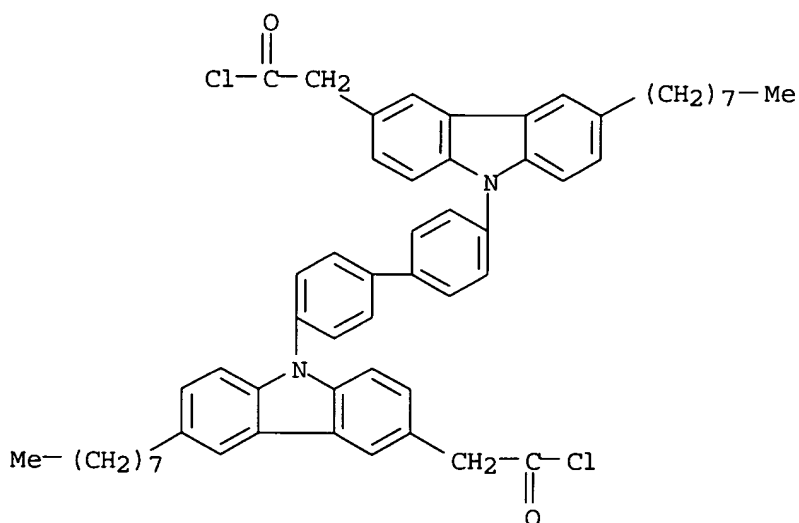
RN 848086-86-2 HCAPLUS

CN 9H-Carbazole-3-methanol, 9,9'-[1,1'-biphenyl]-4,4'-diylbis[6-octyl- (9CI) (CA INDEX NAME)



RN 848086-88-4 HCAPLUS

CN 9H-Carbazole-3-acetyl chloride, 9,9'-[1,1'-biphenyl]-4,4'-diylbis[6-octyl-(9CI) (CA INDEX NAME)



L54 ANSWER 6 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:181376 HCAPLUS

DOCUMENT NUMBER: 142:287585

TITLE: Aromatic polycarbonates for charge-transporting materials of organic thin-film **electroluminescent** devices

INVENTOR(S): Sasaki, Masaomi; Torii, Masafumi; Okada, Takashi; Kosaka, Toshiya; Kawamura, Shinichi

PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 32 pp.

CODEN: JKXXAF

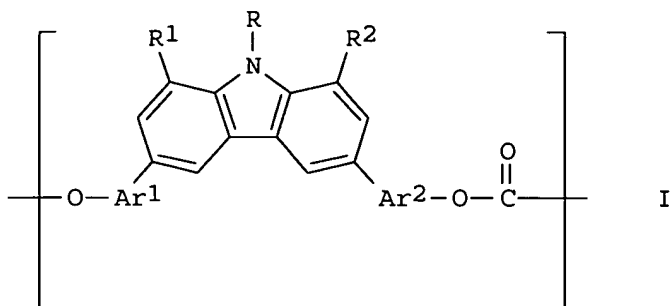
DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005054165	A2	20050303	JP 2004-62414	20040305 <--
PRIORITY APPLN. INFO.: GI			JP 2003-199388	A 20030718 <--



AB The polycarbonates have structural repeating units I [R = (un)substituted alkyl or aryl; R1, R2 = H, (un)substituted alkyl or aryl; Ar1, Ar2 = (un)substituted arylene]. The polycarbonates may have structural repeating units selected from 3 kinds of Markush structures. The polycarbonates show high durability and good light-emitting property.

IT 847202-81-7P 847202-82-8P 847202-83-9P

847202-85-1P 847202-87-3P 847202-89-5P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(aromatic polycarbonates for charge-transporting materials of **electroluminescent** devices)

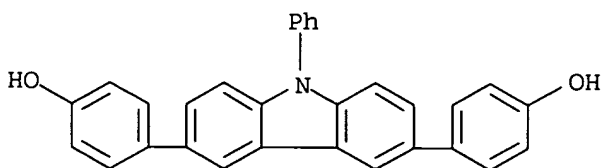
RN 847202-81-7 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with bis(trichloromethyl) carbonate and 4,4'-(9-phenyl-9H-carbazole-3,6-diyl)bis[phenol] (9CI) (CA INDEX NAME)

CM 1

CRN 847202-75-9

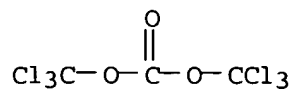
CMF C30 H21 N O2



CM 2

CRN 32315-10-9

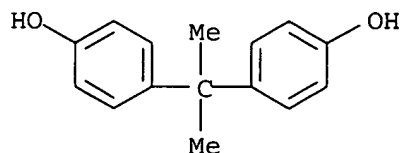
CMF C3 C16 O3



CM 3

CRN 80-05-7

CMF C15 H16 O2



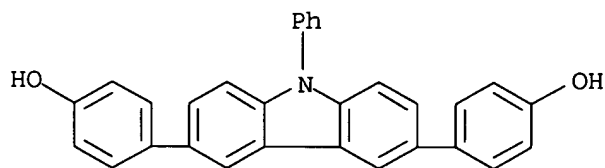
RN 847202-82-8 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis[2-methyl-, polymer with
bis(trichloromethyl) carbonate and 4,4'-(9-phenyl-9H-carbazole-3,6-
diyl)bis[phenol] (9CI) (CA INDEX NAME)

CM 1

CRN 847202-75-9

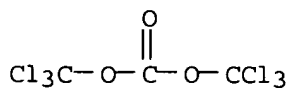
CMF C30 H21 N O2



CM 2

CRN 32315-10-9

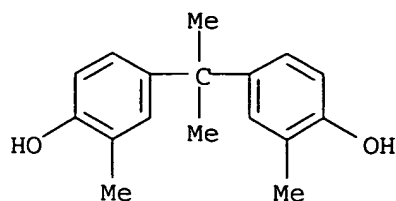
CMF C3 C16 O3



CM 3

CRN 79-97-0

CMF C17 H20 O2



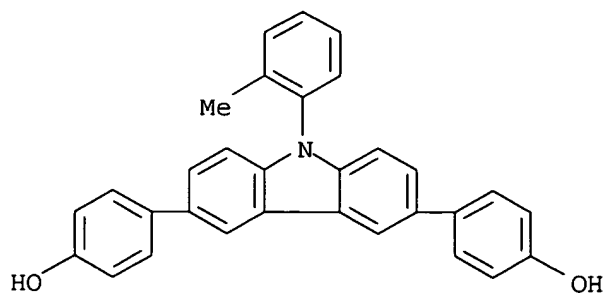
RN 847202-83-9 HCAPLUS

CN Carbonochloridic acid, oxydi-2,1-ethanediyl ester, polymer with
4,4'-[9-(2-methylphenyl)-9H-carbazole-3,6-diyl]bis[phenol] (9CI) (CA
INDEX NAME)

CM 1

CRN 847202-77-1

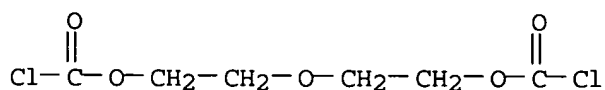
CMF C31 H23 N O2



CM 2

CRN 106-75-2

CMF C6 H8 Cl2 O5



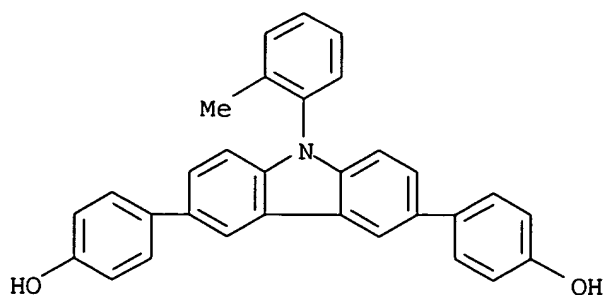
RN 847202-85-1 HCAPLUS

CN Carbonochloridic acid, 1,6-hexanediyl ester, polymer with
4,4'-[9-(2-methylphenyl)-9H-carbazole-3,6-diyl]bis[phenol] (9CI) (CA
INDEX NAME)

CM 1

CRN 847202-77-1

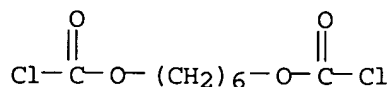
CMF C31 H23 N O2



CM 2

CRN 2916-20-3

CMF C8 H12 Cl2 O4



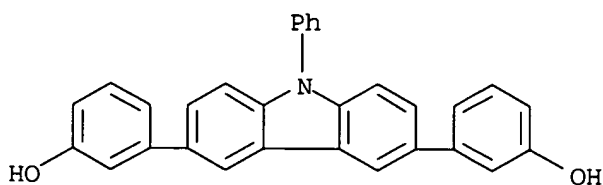
RN 847202-87-3 HCAPLUS

CN Carbonochloridic acid, oxydi-2,1-ethanediyl ester, polymer with 3,3'-(9-phenyl-9H-carbazole-3,6-diyl)bis(phenol) (9CI) (CA INDEX NAME)

CM 1

CRN 847202-80-6

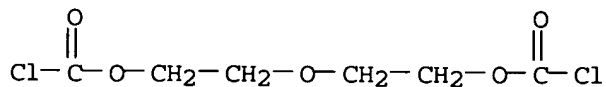
CMF C30 H21 N O2



CM 2

CRN 106-75-2

CMF C6 H8 Cl2 O5



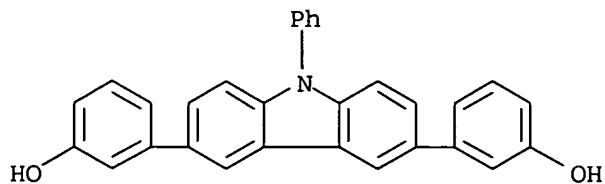
RN 847202-89-5 HCAPLUS

CN Carbonochloridic acid, 1,6-hexanediyl ester, polymer with 3,3'-(9-phenyl-9H-carbazole-3,6-diyl)bis(phenol) (9CI) (CA INDEX NAME)

CM 1

CRN 847202-80-6

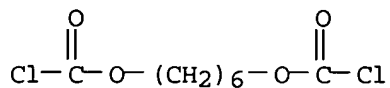
CMF C30 H21 N O2



CM 2

CRN 2916-20-3

CMF C8 H12 Cl2 O4



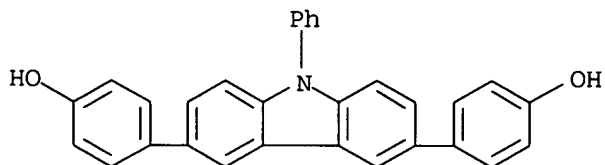
IT 847202-75-9P 847202-77-1P 847202-80-6P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(monomers; aromatic polycarbonates for charge-transporting materials of **electroluminescent** devices)

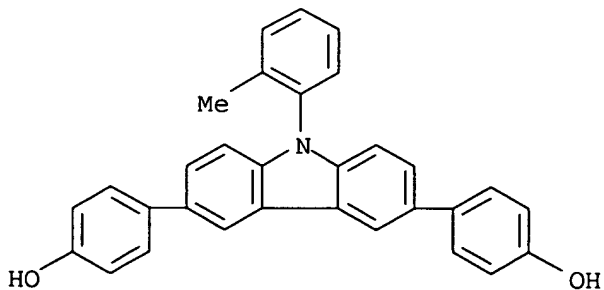
RN 847202-75-9 HCAPLUS

CN Phenol, 4,4'-(9-phenyl-9H-carbazole-3,6-diyl)bis- (9CI) (CA INDEX NAME)

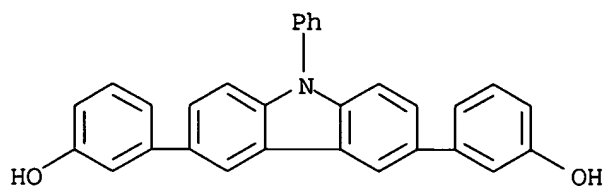


RN 847202-77-1 HCAPLUS

CN Phenol, 4,4'-(9-(2-methylphenyl)-9H-carbazole-3,6-diyl)bis- (9CI) (CA INDEX NAME)



RN 847202-80-6 HCAPLUS
 CN Phenol, 3,3'-(9-phenyl-9H-carbazole-3,6-diyl)bis- (9CI) (CA INDEX NAME)



L54 ANSWER 7 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2005:140278 HCAPLUS
 DOCUMENT NUMBER: 142:229127
 TITLE: Organic **electroluminescent** elements with low emission voltage and power consumption and lighting apparatus and displays using them
 INVENTOR(S): Kato, Eisaku; Oshiyama, Tomohiro; Suzurizato, Yoshiyuki; Kita, Hiroshi
 PATENT ASSIGNEE(S): Konica Minolta Holdings, Inc., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 38 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

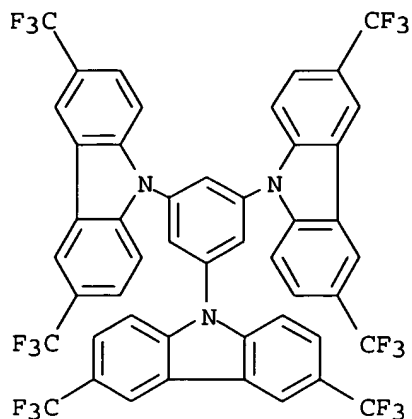
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005044790	A2	20050217	JP 2004-195396	20040701 <--
PRIORITY APPLN. INFO.:			JP 2003-193521	A 20030708 <--
OTHER SOURCE(S):	MARPAT 142:229127			

AB The elements, useful for blue- or white-emitting backlights for LCD, have layers containing compds. L1Xn [L1 = polyvalent hydrocarbon or aromatic linking group; X = (un)substituted N-containing aromatic heterocyclic group linked to

L1 at N; n ≥ 2] adjacent to light-emitting layers between anodes and cathodes. The layers show good hole-barrier properties.

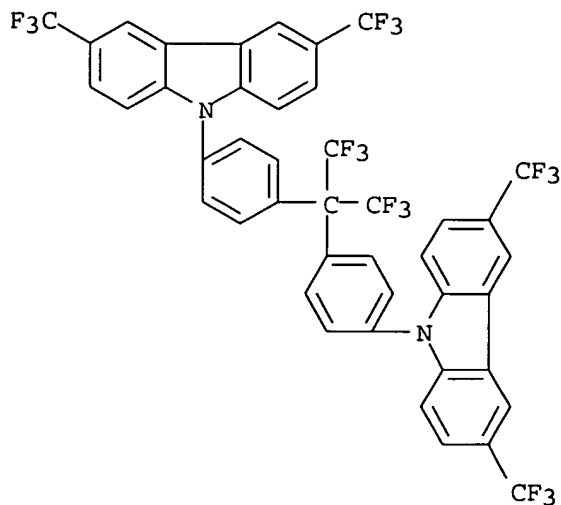
IT **844510-62-9 844510-66-3**
 RL: DEV (Device component use); USES (Uses)
 (hole-barrier layer; organic EL elements containing N-containing heterocyclic compds. in hole-barrier layers for displays with low emission voltage and power consumption)

RN 844510-62-9 HCAPLUS
 CN 9H-Carbazole, 9,9',9''-(1,3,5-benzenetriyl)tris[3,6-bis(trifluoromethyl)-(9CI) (CA INDEX NAME)



RN 844510-66-3 HCAPLUS

CN 9H-Carbazole, 9,9'-[[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]di-4,1-phenylene]bis[3,6-bis(trifluoromethyl)- (9CI) (CA INDEX NAME)



L54 ANSWER 8 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:35085 HCAPLUS

DOCUMENT NUMBER: 142:102910

TITLE: Organic **electroluminescent** device,
illuminating device, and display

INVENTOR(S): Oshiyama, Tomohiro; Kita, Hiroshi; Katoh, Eisaku

PATENT ASSIGNEE(S): Konica Minolta Holding, Inc., Japan

SOURCE: PCT Int. Appl., 80 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

 WO 2005004549 A1 20050113 WO 2004-JP9391 20040625 <--
 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
 CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
 GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
 LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
 NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
 TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
 EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,
 SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
 SN, TD, TG

PRIORITY APPLN. INFO.:

JP 2003-193519

A 20030708 <--

AB An organic **electroluminescent** device comprising at least a
 light-emitting layer containing a phosphorescent compound between an anode and
 a

cathode is characterized by comprising an adjoining layer so arranged
 between the light-emitting layer and the cathode as to be adjacent to the
 light-emitting layer and containing a compound with an electron-withdrawing
 group having an HOMO at -5.7 eV to -7.0 eV and an LUMO at -1.3 eV to -2.3
 eV.

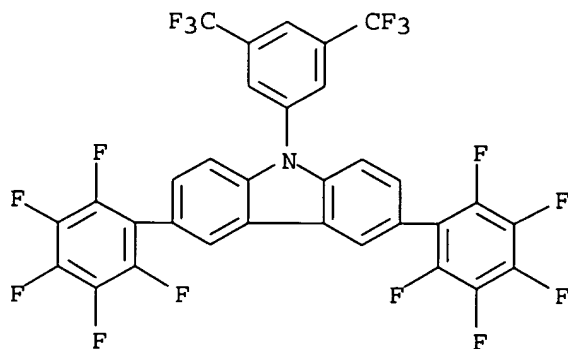
IT 817638-53-2

RL: DEV (Device component use); USES (Uses)

(organic **electroluminescent** device, illumination apparatus and
 display)

RN 817638-53-2 HCAPLUS

CN 9H-Carbazole, 9-[3,5-bis(trifluoromethyl)phenyl]-3,6-
 bis(pentafluorophenyl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 9 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:1038543 HCAPLUS

DOCUMENT NUMBER: 142:29775

TITLE: Organic **electroluminescent** (EL) device and
electroluminescent display (ELD) and
 illumination assembled with the same

INVENTOR(S): Ueda, Noriko; Yamada, Taketoshi; Oshiyama, Tomohiro;
 Kita, Hiroshi

PATENT ASSIGNEE(S): Konica Minolta Holdings, Inc., Japan

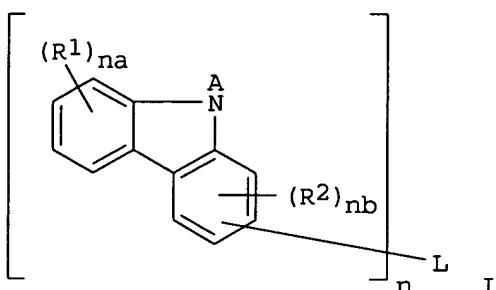
SOURCE: Jpn. Kokai Tokkyo Koho, 61 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004342391	A2	20041202	JP 2003-135706	20030514 <--
PRIORITY APPLN. INFO.:			JP 2003-135706	20030514 <--
OTHER SOURCE(S):	MARPAT 142:29775			

GI



AB The **electroluminescent** device has a light-emitting layer containing phosphorescent compds. and involves 9-azafluorene derivs. represented by the general formula I (A = alkyl, cycloalkyl, alkyl, aryl, heteroaryl; R1, R2 = H, substituent; na = 0-4 integer; nb = 0-3 integer; n = 2-4 integer; L = n-valent linking group), preferably, in the light-emitting layer. The EL device shows high luminance and long half life.

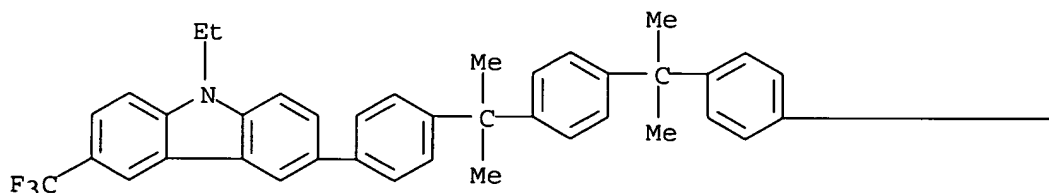
IT 799559-74-3 799559-99-2 799560-03-5
 799560-10-4

RL: DEV (Device component use); USES (Uses)
 (host; organic **electroluminescent** (EL) device containing 9-azafluorene derivs. for **electroluminescent** display (ELD) and illumination)

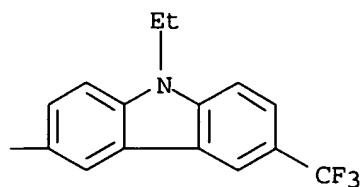
RN 799559-74-3 HCAPLUS

CN 9H-Carbazole, 3,3'-[1,4-phenylenebis[(1-methylethylidene)-4,1-phenylene]]bis[9-ethyl-6-(trifluoromethyl)- (9CI) (CA INDEX NAME)

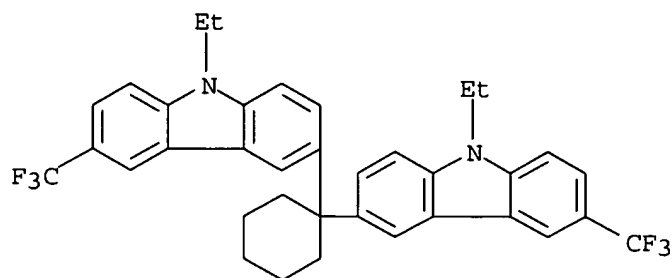
PAGE 1-A



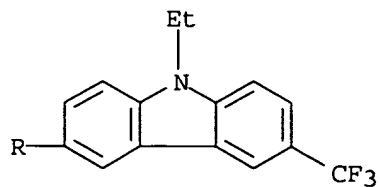
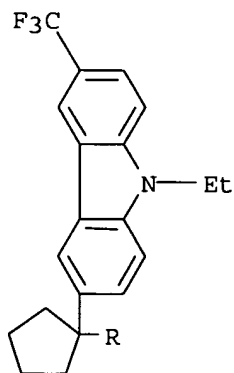
PAGE 1-B



RN 799559-99-2 HCAPLUS
 CN 9H-Carbazole, 3,3'-cyclohexylidenebis[9-ethyl-6-(trifluoromethyl)- (9CI)
 (CA INDEX NAME)



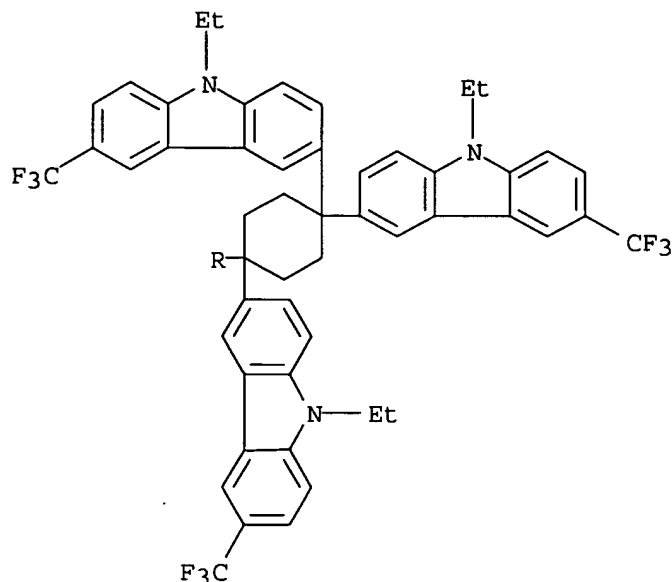
RN 799560-03-5 HCAPLUS
 CN 9H-Carbazole, 3,3'-cyclopentylidenebis[9-ethyl-6-(trifluoromethyl)- (9CI)
 (CA INDEX NAME)



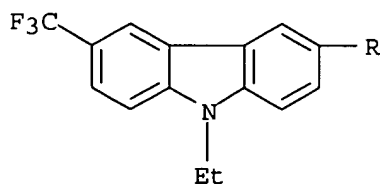
RN 799560-10-4 HCAPLUS
 CN 9H-Carbazole, 3,3',3'',3'''-(1,4-cyclohexanediylidene)tetrakis[9-ethyl-6-

(trifluoromethyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



L54 ANSWER 10 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2004:985920 HCAPLUS
 DOCUMENT NUMBER: 141:417582
 TITLE: Blue light-emitting compounds, blue light-emitting polymers, processes of preparing the blue light-emitting compounds and luminescent element including the blue light-emitting polymers
 INVENTOR(S): Nakaya, Tadao; Tobita, Michiaki; Saikawa, Tomoyuki; Ishitobi, Tatsuro; Ushijima, Takashi; Takano, Shinji; Tajima, Akio
 PATENT ASSIGNEE(S): Hirose Engineering Co., Ltd., Japan
 SOURCE: Eur. Pat. Appl., 108 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1477544	A2	20041117	EP 2004-102113	20040513 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
US 2004234814	A1	20041125	US 2004-844352	20040513 <--
JP 2005154404	A2	20050616	JP 2004-143337	20040513 <--
PRIORITY APPLN. INFO.:			JP 2003-139677	A 20030516 <--
			JP 2003-368157	A 20031028 <--

OTHER SOURCE(S): MARPAT 141:417582

AB Blue-light-emitting compds. are described which comprise substituted N-vinyl carbazoles and polymers containing repeating units formed from substituted N-vinyl carbazole monomers. Methods for preparing the N-vinyl carbazole derivs. are described which entail reacting a halogen compound with a hydrazide to produce an intermediate; dehydrating the intermediate; and dehydrohalogenating the dehydrated intermediate. Alternately, a Friedel-Crafts reaction may be carried out with an appropriate halogen compound to produce an organic halogen which can then be dehydrohalogenated to produce the desired compound. Luminescent elements with light-emitting layers comprising the polymers are also described.

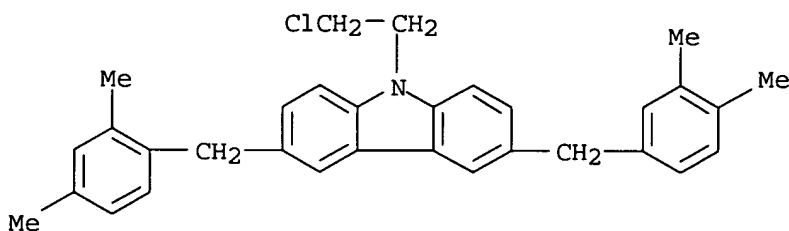
IT 793717-57-4P 793717-60-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(blue light-emitting N-vinyl carbazole derivative compds. and polymers and processes of preparing the blue light-emitting compds. and luminescent elements including the polymers)

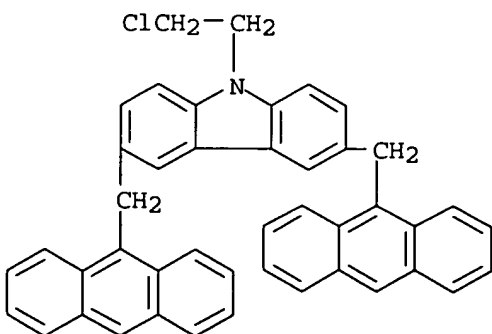
RN 793717-57-4 HCAPLUS

CN 9H-Carbazole, 9-(2-chloroethyl)-3-[(2,4-dimethylphenyl)methyl]-6-[(3,4-dimethylphenyl)methyl]- (9CI) (CA INDEX NAME)



RN 793717-60-9 HCAPLUS

CN 9H-Carbazole, 3,6-bis(9-anthracenylmethyl)-9-(2-chloroethyl)- (9CI) (CA INDEX NAME)



L54 ANSWER 11 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2004:935420 HCAPLUS
 DOCUMENT NUMBER: 141:403269
 TITLE: Organic **electroluminescent** device for
 illumination apparatus and optical display
 INVENTOR(S): Kita, Hiroshi; Yamada, Taketoshi; Suzurizato,
 Yoshiyuki
 PATENT ASSIGNEE(S): Konica Minolta Holdings, Inc., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 97 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004311411	A2	20041104	JP 2004-49238	20040225 <--
PRIORITY APPLN. INFO.:			JP 2003-84072	A 20030326 <--
OTHER SOURCE(S):	MARPAT	141:403269		

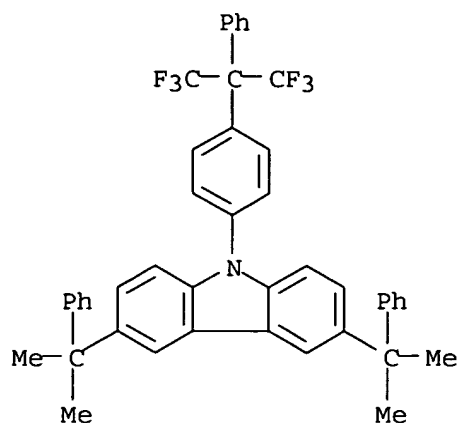
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The invention relates to an organic **electroluminescent** device,
 suited for use in making an illumination apparatus and an optical display,
 comprising an **electroluminescent** layer containing a phosphorescent
 compound and the compound represented by I [R1-3 = alkyl, and cycloalkyl
 groups; n1 = 0-5 integer; n2 and n3 = 0-4 integer] and an organic layer
 containing a hole transporting compound represented by II [R11-14 = H, alkyl
 and
 bonding group; R11-14 = alkyl, aromatic, heterocyclic, etc.; m11, m12, m13,
 and m14 = 0-4 integer; L1 = III, IV, and -Ar1-L'-Ar2-, etc. [R15 = alkyl,
 alkoxy, alkylthio, etc.; R15 = alkyl, aromatic, heterocyclic, etc.; m15 = 0-3
 integer; Ar1 and Ar2 = arylene group; L' = alkylene and phenylene]].

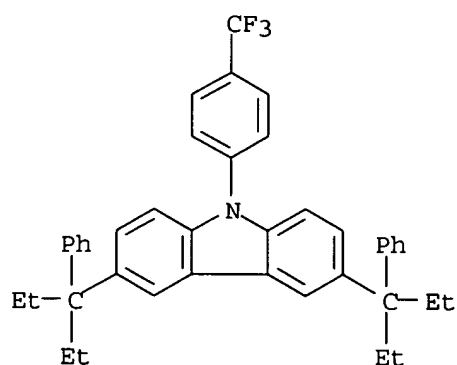
IT 697312-27-9 697312-28-0 697312-32-6
 697312-33-7
 RL: DEV (Device component use); USES (Uses)
 (host material in **electroluminescent** layer; organic
electroluminescent device for illumination apparatus and optical
 display)

RN 697312-27-9 HCAPLUS
 CN 9H-Carbazole, 3,6-bis(1-methyl-1-phenylethyl)-9-[4-[2,2,2-trifluoro-1-
 phenyl-1-(trifluoromethyl)ethyl]phenyl]- (9CI) (CA INDEX NAME)



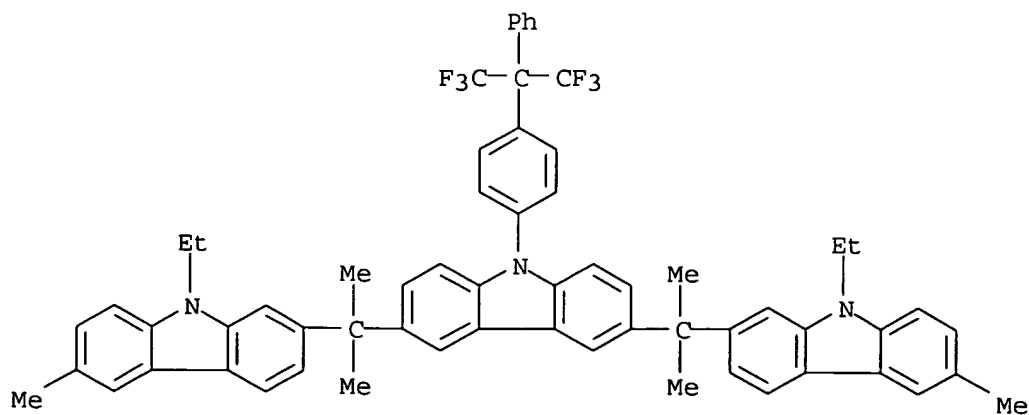
RN 697312-28-0 HCAPLUS

CN 9H-Carbazole, 3,6-bis(1-ethyl-1-phenylpropyl)-9-[4-(trifluoromethyl)phenyl]-(9CI) (CA INDEX NAME)



RN 697312-32-6 HCAPLUS

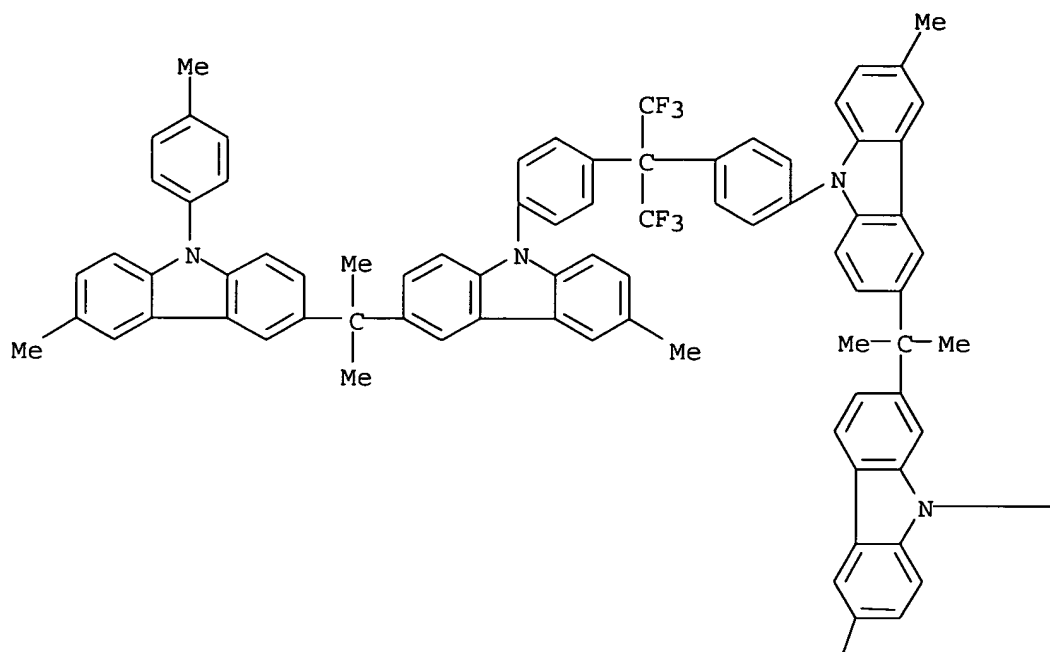
CN 9H-Carbazole, 3,6-bis[1-(9-ethyl-6-methyl-9H-carbazol-2-yl)-1-methylethyl]-9-[4-[2,2,2-trifluoro-1-phenyl-1-(trifluoromethyl)ethyl]phenyl]-(9CI) (CA INDEX NAME)



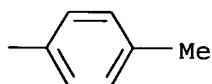
RN 697312-33-7 HCAPLUS

CN 9H-Carbazole, 3-methyl-6-[1-methyl-1-[6-methyl-9-(4-methylphenyl)-9H-carbazol-2-yl]ethyl]-9-[4-[2,2,2-trifluoro-1-[4-[3-methyl-6-[1-methyl-1-[6-methyl-9-(4-methylphenyl)-9H-carbazol-3-yl]ethyl]-9H-carbazol-9-yl]phenyl]-1-(trifluoromethyl)ethyl]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



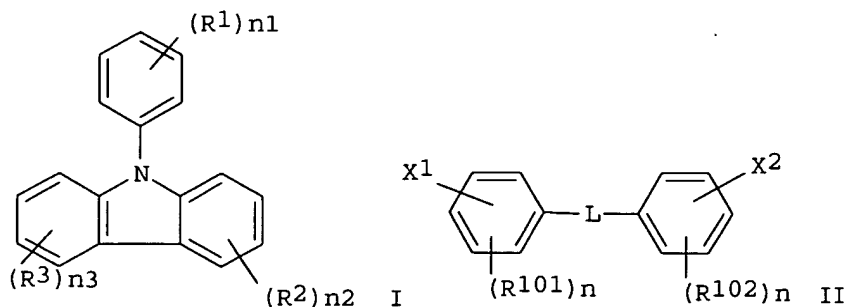
PAGE 2-A

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Me

L54 ANSWER 12 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2004:932025 HCAPLUS
 DOCUMENT NUMBER: 141:403588
 TITLE: Organic **electroluminescent** (EL) element with
 high luminance and excellent quantum efficiency and
 illumination and display device assembled with the
 same
 INVENTOR(S): Fukuda, Mitsuhiro; Ueda, Noriko; Yamada, Taketoshi
 PATENT ASSIGNEE(S): Konica Minolta Holdings, Inc., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 90 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004311413	A2	20041104	JP 2004-49240	20040225 <--
PRIORITY APPLN. INFO.:			JP 2003-84074	A 20030326 <--
OTHER SOURCE(S):	MARPAT	141:403588		

GI



AB The organic EL element contains organic layers containing at least light-emitting layers, wherein the light-emitting layers contain 9-phenylcarbazole derivs. I (R1-R3 = alkyl, cycloalkyl; n1 = 0-5 integer; n2, n3 = 0-4 integer) and phosphorescent compds. and ≥1 of the organic layers contain aromatic compds. II (X1, X2 = heterocyclic ring containing ≥2 N; L = bond, ≥1 of divalent groups selected from substd methylene, substd phenylene; R101, R102 = substituent; n, m = 0-4 integer), aryl group-containing 1,2,4-triazole derivs., aryl group-containing pyrimidine derivs., aryl group-containing 1,3,5-triazine derivs., aryl group-containing 1,3,4-thiadiazole derivs., aryl group-containing 1,3,4-oxadiazole derivs., and

aryl group-containing imidazole derivs.

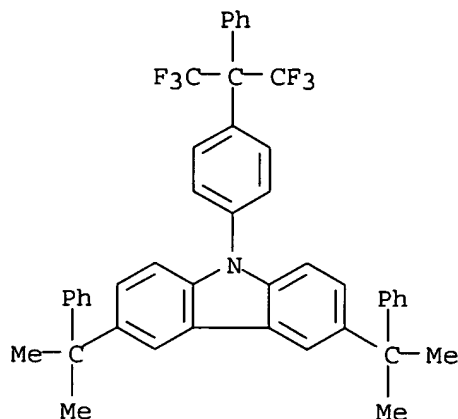
IT 697312-27-9 697312-28-0 697312-32-6
697312-33-7

RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)

(host; organic EL element with high luminance and excellent quantum efficiency for lighting and display)

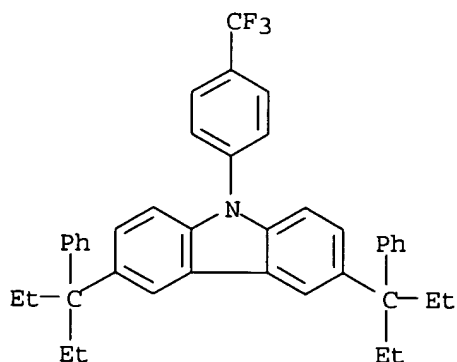
RN 697312-27-9 HCAPLUS

CN 9H-Carbazole, 3,6-bis(1-methyl-1-phenylethyl)-9-[4-[2,2,2-trifluoro-1-phenyl-1-(trifluoromethyl)ethyl]phenyl]- (9CI) (CA INDEX NAME)



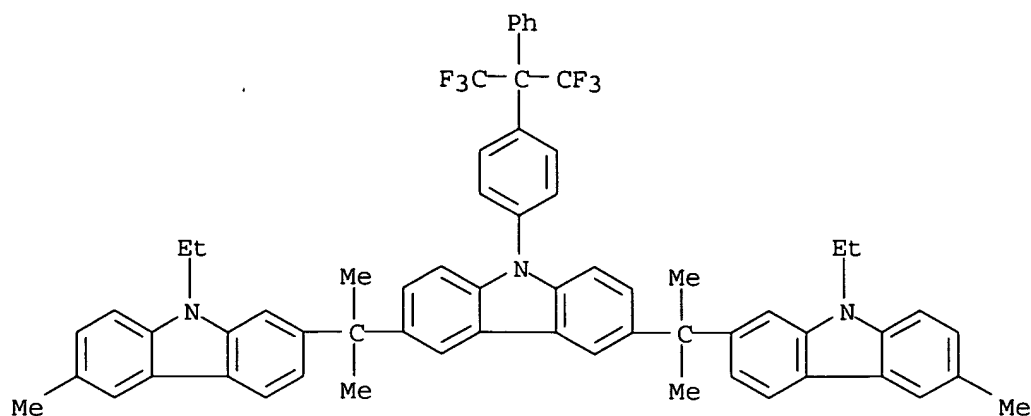
RN 697312-28-0 HCAPLUS

CN 9H-Carbazole, 3,6-bis(1-ethyl-1-phenylpropyl)-9-[4-(trifluoromethyl)phenyl]- (9CI) (CA INDEX NAME)



RN 697312-32-6 HCAPLUS

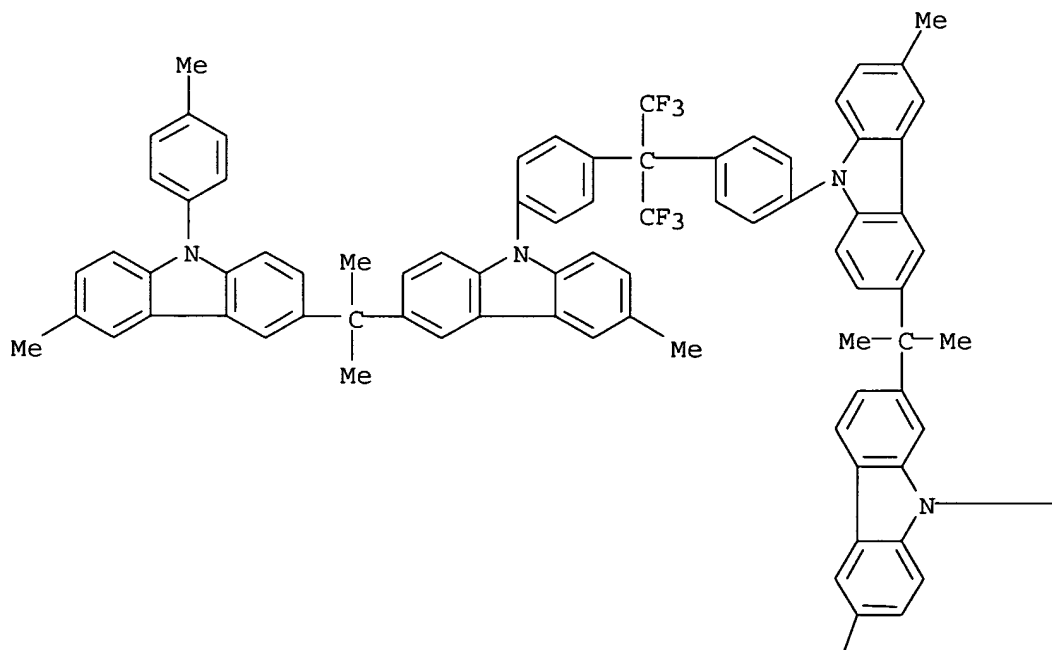
CN 9H-Carbazole, 3,6-bis[1-(9-ethyl-6-methyl-9H-carbazol-2-yl)-1-methylethyl]-9-[4-[2,2,2-trifluoro-1-phenyl-1-(trifluoromethyl)ethyl]phenyl]- (9CI) (CA INDEX NAME)



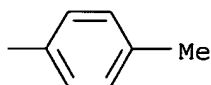
RN 697312-33-7 HCAPLUS

CN 9H-Carbazole, 3-methyl-6-[1-methyl-1-[6-methyl-9-(4-methylphenyl)-9H-carbazol-2-yl]ethyl]-9-[4-[2,2,2-trifluoro-1-[4-[3-methyl-6-[1-methyl-1-[6-methyl-9-(4-methylphenyl)-9H-carbazol-3-yl]ethyl]-9H-carbazol-9-yl]phenyl]-1-(trifluoromethyl)ethyl]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

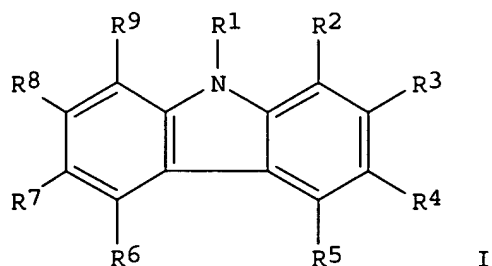


PAGE 2-A

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Me

L54 ANSWER 13 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:842712 HCAPLUS
DOCUMENT NUMBER: 141:340072
TITLE: White-emitting organic **electroluminescent**
device with high emission efficiency and long service
life and its display and illumination
INVENTOR(S): Kita, Hiroshi
PATENT ASSIGNEE(S): Konica Minolta Holdings, Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 46 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004288381	A2	20041014	JP 2003-75512	20030319 <--
PRIORITY APPLN. INFO.:			JP 2003-75512	20030319 <--
OTHER SOURCE(S):	MARPAT	141:340072		
GI				



AB The organic EL device contains carbazol derivs. represented by the general formula I (R1 = H, substituent, F-containing aryl; when R1 = H or substituent, ≥ 1 of R2-R9 = F or F-containing aryl and other R2-R9 = H or substituent; when R1 = F-containing aryl, R2-R9 = H or substituent). The organic

EL device will contain I and phosphorescent dopants in the light-emitting layer.

IT 773150-29-1 773150-30-4 773150-36-0

773150-37-1 773150-38-2 773150-39-3

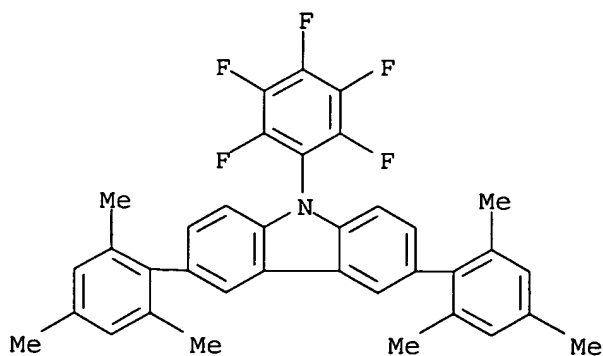
773150-40-6 773150-41-7

RL: DEV (Device component use); USES (Uses)

(white-emitting organic EL device containing carbazol derivs. as hosts for phosphorescent dopants for display and illumination)

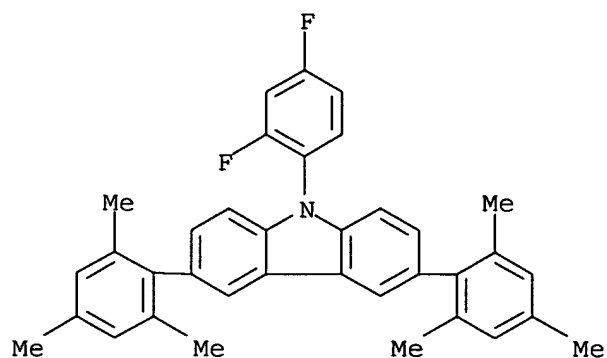
RN 773150-29-1 HCAPLUS

CN 9H-Carbazole, 9-(pentafluorophenyl)-3,6-bis(2,4,6-trimethylphenyl)- (9CI)
(CA INDEX NAME)

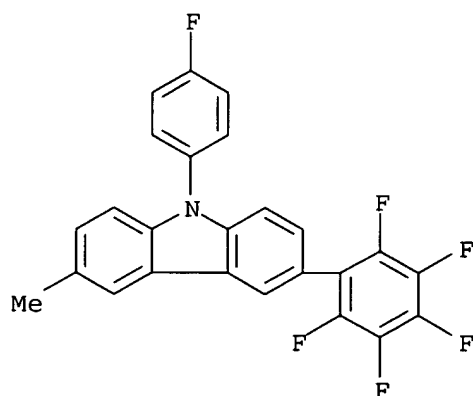


RN 773150-30-4 HCAPLUS

CN 9H-Carbazole, 9-(2,4-difluorophenyl)-3,6-bis(2,4,6-trimethylphenyl)- (9CI)
(CA INDEX NAME)

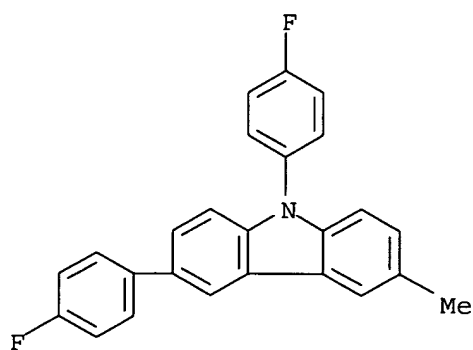


RN 773150-36-0 HCAPLUS

CN 9H-Carbazole, 9-(4-fluorophenyl)-3-methyl-6-(pentafluorophenyl)- (9CI)
(CA INDEX NAME)

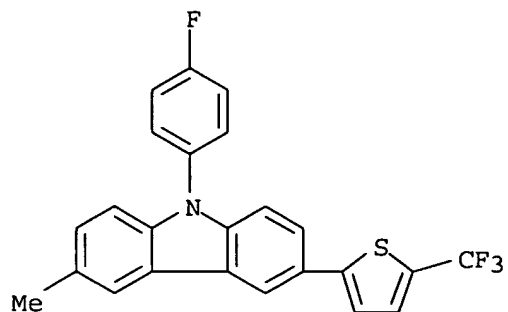
RN 773150-37-1 HCAPLUS

CN 9H-Carbazole, 3,9-bis(4-fluorophenyl)-6-methyl- (9CI) (CA INDEX NAME)



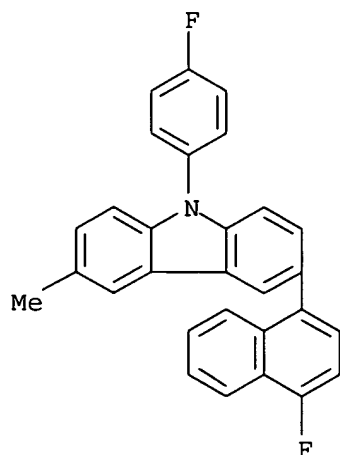
RN 773150-38-2 HCAPLUS

CN 9H-Carbazole, 9-(4-fluorophenyl)-3-methyl-6-[5-(trifluoromethyl)-2-thienyl]- (9CI) (CA INDEX NAME)



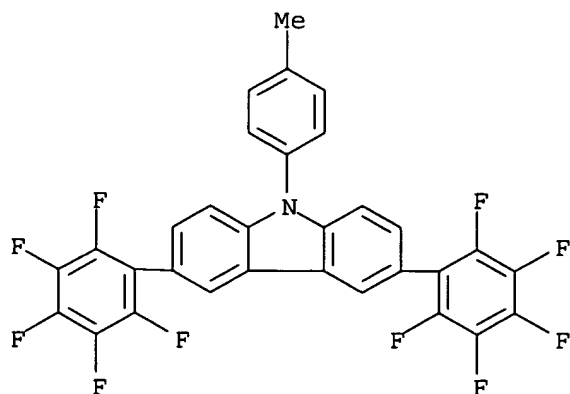
RN 773150-39-3 HCAPLUS

CN 9H-Carbazole, 3-(4-fluoro-1-naphthalenyl)-9-(4-fluorophenyl)-6-methyl-
(9CI) (CA INDEX NAME)



RN 773150-40-6 HCAPLUS

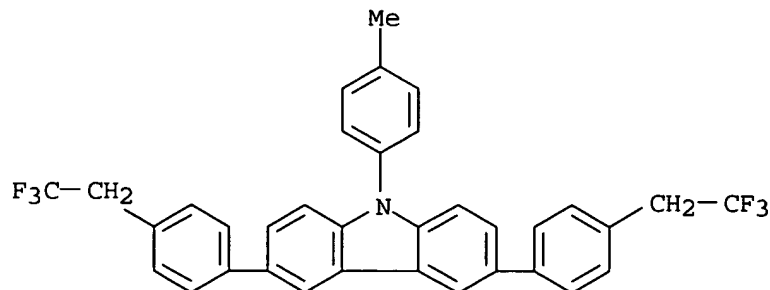
CN 9H-Carbazole, 9-(4-methylphenyl)-3,6-bis(pentafluorophenyl)- (9CI) (CA
INDEX NAME)



RN 773150-41-7 HCAPLUS

CN 9H-Carbazole, 9-(4-methylphenyl)-3,6-bis[4-(2,2,2-trifluoroethyl)phenyl]-

(9CI) (CA INDEX NAME)



L54 ANSWER 14 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:842711 HCAPLUS

DOCUMENT NUMBER: 141:340137

TITLE: White-emitting organic **electroluminescent**
device with high emission efficiency and long service
life and its display and illumination

INVENTOR(S): Kita, Hiroshi

PATENT ASSIGNEE(S): Konica Minolta Holdings, Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 41 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

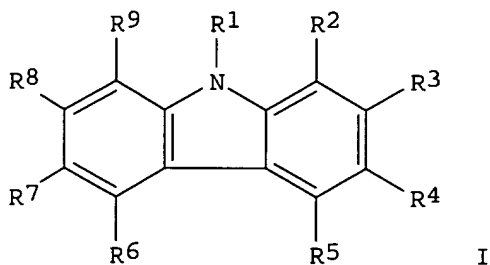
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004288380	A2	20041014	JP 2003-75511	20030319 <--
PRIORITY APPLN. INFO.:			JP 2003-75511	20030319 <--
OTHER SOURCE(S):	MARPAT 141:340137			

GI



I

AB The organic EL device contains carbazol derivs. represented by the general formula I (R1 = H, substituent, F-containing alkyl; when R1 = H or substituent, ≥ 1 of R2-R9 = F or F-containing alkyl and other R2-R9 = H or substituent; when R1 = F-containing alkyl, R2-R9 = H or substituent). The organic EL device will contain I and phosphorescent dopants in the light-emitting layer.

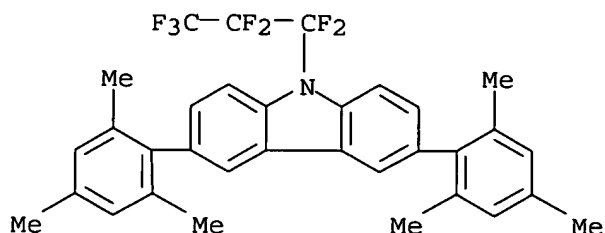
IT 773156-54-0 773156-55-1 773156-60-8
773156-63-1

RL: DEV (Device component use); USES (Uses)

(white-emitting organic EL device containing carbazol derivs. as hosts for phosphorescent dopants for display and illumination)

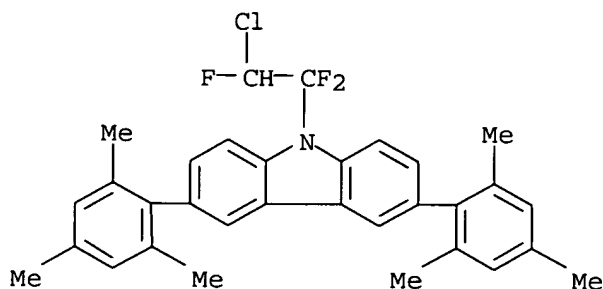
RN 773156-54-0 HCAPLUS

CN 9H-Carbazole, 9-(heptafluoropropyl)-3,6-bis(2,4,6-trimethylphenyl)- (9CI)
(CA INDEX NAME)



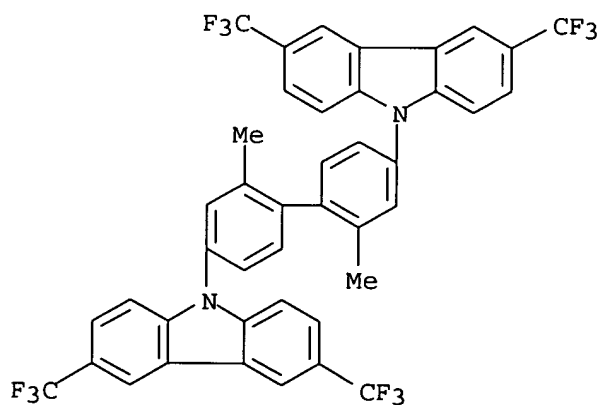
RN 773156-55-1 HCAPLUS

CN 9H-Carbazole, 9-(2-chloro-1,1,2-trifluoroethyl)-3,6-bis(2,4,6-trimethylphenyl)- (9CI) (CA INDEX NAME)



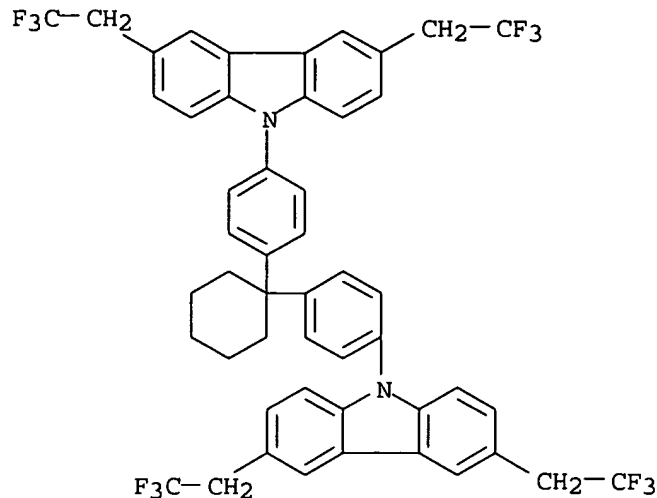
RN 773156-60-8 HCAPLUS

CN 9H-Carbazole, 9,9'-(2,2'-dimethyl[1,1'-biphenyl]-4,4'-diyl)bis[3,6-bis(trifluoromethyl)- (9CI) (CA INDEX NAME)



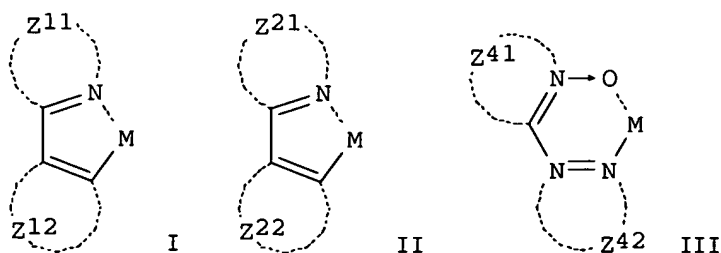
RN 773156-63-1 HCAPLUS

CN 9H-Carbazole, 9,9'-(cyclohexylidenedi-4,1-phenylene)bis[3,6-bis(2,2,2-trifluoroethyl)- (9CI) (CA INDEX NAME)



L54 ANSWER 15 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2004:739385 HCAPLUS
 DOCUMENT NUMBER: 141:268179
 TITLE: Long-life white-emitting organic
electroluminescent devices, displays,
 illumination apparatus, and electric appliances
 therewith
 INVENTOR(S): Fukuda, Mitsuhiro; Genda, Kazuo
 PATENT ASSIGNEE(S): Konica Minolta Holdings, Inc., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 577 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004253298	A2	20040909	JP 2003-43860	20030221 <--
PRIORITY APPLN. INFO.:			JP 2003-43860	20030221 <--
OTHER SOURCE(S):	MARPAT 141:268179			
GI				



AB The devices have, in their constituent layers (e.g., emitting layers,

hole- or electron-transporting layers), (i) compds. represented by $X1R1C:CR2X2$ [$X1, X2$ = aryl, heterocycle; $R1, R2$ = aryl, heterocyclic hydrocarbyl, cycloalkoxy ($R1 = R2$ = aryl)], $R11R12R13R14R15P$ ($R11-R15$ = monovalent substituent), $Ar2Ar1C6H4(m-Ar1Ar2)$ [$Ar1$ = bivalent aromatic hydrocarbylene; $Ar2$ = (substituted) Ph; H atom on the benzene ring may be substituted with (cyclo)alkyl, alkoxy, or halo], $Z(ArQ)n$ [Q = (substituted) o-(2-pyridyl)phenyl; Z = n-valent bridging group, single bond; Ar = bivalent arylene; n = 2-8], etc., (ii) fluorescent compds. with mol. weight 500-2000 and atomic ratio $F/(F + H)$ 0-0.9 and having fluorescent peak at ≤ 415 nm, (iii) polysilanes $(R21R22Si)n$ [$R21, R22$ = alkyl(oxy), aromatic group, aryloxy; $n1 \geq 3$] or $[R31(Ar31NR32R33)Si]n$ [$R31$ = alkyl(oxy), aromatic group, aryloxy; $R32, R33$ = alkyl, aromatic group; $Ar31$ = arylene; $n2 \geq 3$], and/or (iv) fluorescent compds. satisfying atomic ratio N/C 0-0.05. The devices, having phosphorescent dopants I ($Z11$ = aromatic azacycle; $Z12$ = nonarom. ring, 5-membered aromatic ring, azulene; M = metal), II ($Z21, Z22$ = aromatic azacycle; M = metal), or III ($Z41$ = azacycle; $Z42$ = ring; M = metal) in emitting layers, are also claimed. The devices exhibit high luminescent efficiency and substantially white emission, and are suited for light source uses, especially of LCD.

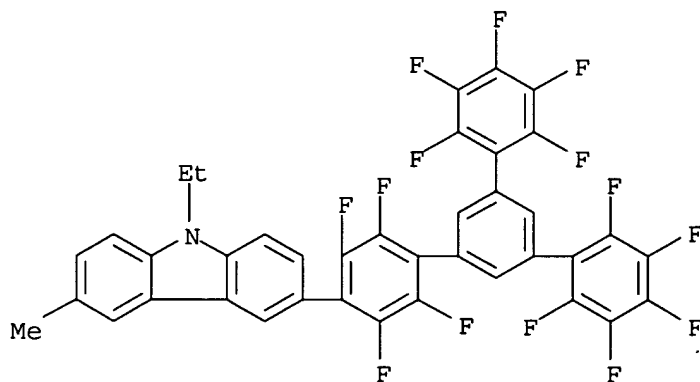
IT 669072-60-0

RL: DEV (Device component use); USES (Uses)

(long-life white-emitting organic LED containing azacyclic phosphorescent dopants and showing high luminescent efficiency)

RN 669072-60-0 HCAPLUS

CN 9H-Carbazole, 9-ethyl-3-methyl-6-[2,2',3,3',4'',5,5'',6,6''-nonafluoro-5'-(pentafluorophenyl)[1,1':3',1''-terphenyl]-4-yl]- (9CI) (CA INDEX NAME)



L54 ANSWER 16 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:679930 HCAPLUS

DOCUMENT NUMBER: 141:207668

TITLE: Preparation and use of polymers containing carbazole groups and their blends

PATENT ASSIGNEE(S): Covion Organic Semiconductors GmbH, Germany

SOURCE: Ger. Offen., 31 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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DE 10304819      A1      20040819      DE 2003-10304819      20030206
WO 2004070772    A2      20040819      WO 2004-EP994        20040204 <--
WO 2004070772    A3      20041202

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 CU, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EC, EE, EE, EG, ES,
 ES, FI, FI, GB, GD, GE, GE, GH, GM, HR, HR, HU, HU, ID, IL, IN,
 IS, JP, JP, KE, KE, KG, KG, KP, KP, KR, KR, KZ, KZ, KZ, LC,
 LK, LR, LS, LS, LT, LU, LV, MA, MD, MD, MG, MK, MN, MW, MX, MX,
 MZ, MZ, NA, NI

RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE,
 BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU,
 MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN,
 GQ, GW, ML, MR, NE, SN, TD, TG, BF, BJ, CF, CG, CI, CM, GA, GN,
 GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: DE 2003-10304819 A 20030206 <--
 GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

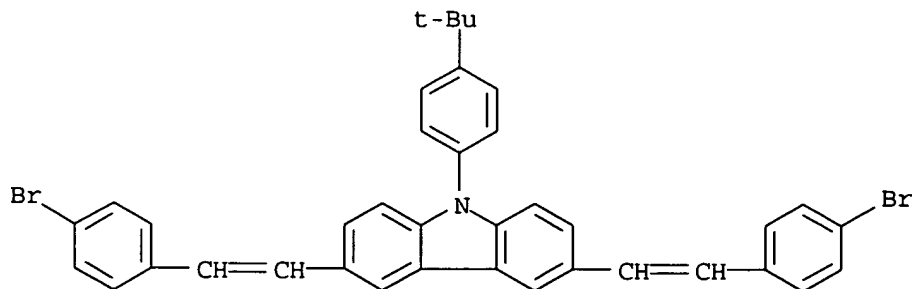
AB The title polymers, with steep current-voltage curves and useful in
 light-emitting diodes, are prepared The reaction of 1-bromo-4-tert-
 butylbenzene with carbazole in refluxing xylene in the presence of K₃PO₄
 and tert-Bu₃P gave 68% 9-(4-tert-butylphenyl)carbazole, bromination of
 which with N-bromosuccinimide in CH₂Cl₂ at 0° gave 66%
 corresponding 3,6-dibromo derivative (I). Refluxing monomer II, monomer III
 1.6, I 0.8, and N,N'-bis(4-bromophenyl)-N,N'-bis(4-tert-butylphenyl)-4,4'-
 biphenyldiamine 0.8 mmol in dioxane-PhMe-H₂O in the presence of K
 phosphate, Pd(OAc)₂, and (o-MeC₆H₄)₃P and end-capping with 100 mg
 benzenboronic acid and 0.2 mL PhBr gave 96% polymer with number-average mol.
 weight
 156,000 and polydispersity 3.7.

IT 741293-55-0

RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction of di-Et (bromobenzyl)phosphonate with (tert-
 butylphenyl)carbazoledicarboxaldehyde)

RN 741293-55-0 HCAPLUS

CN 9H-Carbazole, 3,6-bis[2-(4-bromophenyl)ethenyl]-9-[4-(1,1-
 dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)



ACCESSION NUMBER: 2004:512741 HCAPLUS
 DOCUMENT NUMBER: 141:79110
 TITLE: Organic **electroluminescent** devices/displays
 INVENTOR(S): Ueda, Noriko; Yamada, Taketoshi; Kita, Hiroshi
 PATENT ASSIGNEE(S): Konica Minolta Holdings Inc., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 47 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

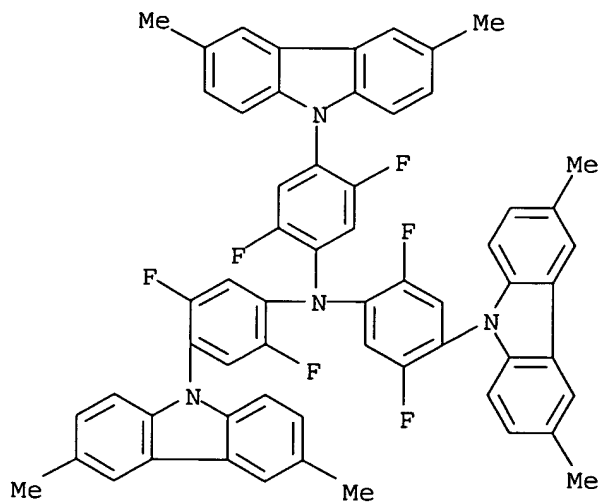
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004178896	A2	20040624	JP 2002-342194	20021126 <--
PRIORITY APPLN. INFO.:			JP 2002-342194	20021126 <--
OTHER SOURCE(S): MARPAT 141:79110				

AB The devices/displays comprise, in organic layers, triarylamines NAr₁Ar₂Ar₃ (Ar₁-3 = substituted ph or 4-biphenyl having carbazolyl substituent) as hosts, and phosphorescent substances capable of emitting from the triplet-state exciton as dopants. Preferably, the dopants are complexes of Group VIIIB metals. The devices/displays show high luminance, quantum efficiency, and long half-life.

IT **710320-40-4**
 RL: TEM (Technical or engineered material use); USES (Uses)
 (host; organic **electroluminescent** device/displays containing triaryllamine hosts and phosphorescent dopants)

RN 710320-40-4 HCAPLUS

CN Benzenamine, 4-(3,6-dimethyl-9H-carbazol-9-yl)-N,N-bis[4-(3,6-dimethyl-9H-carbazol-9-yl)-2,5-difluorophenyl]-2,5-difluoro- (9CI) (CA INDEX NAME)

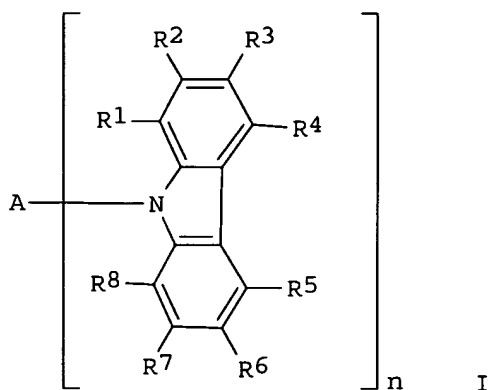


L54 ANSWER 18 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:493154 HCAPLUS
 DOCUMENT NUMBER: 141:61823
 TITLE: Organic **electroluminescent** device and display
 INVENTOR(S): Fukuda, Mitsuhiro; Yamada, Taketoshi; Kita, Hiroshi
 PATENT ASSIGNEE(S): Konica Minolta Holdings Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 35 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004171808	A2	20040617	JP 2002-333320	20021118 <--
PRIORITY APPLN. INFO.:			JP 2002-333320	20021118 <--
OTHER SOURCE(S):	MARPAT	141:61823		
GI				



AB The invention relates to an organic **electroluminescent** device and display, especially a phosphorescent **electroluminescence** device, comprising the carbazole derivative represented by I [A = aromatic ring residue;

R1-8 = H and substituted group (at least one of R1-8 is a substituted group other than H); n = ≥ 1 integer].

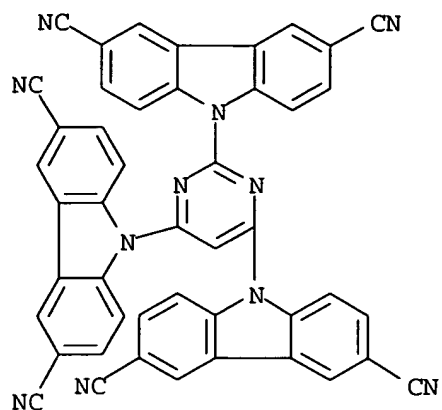
IT **705280-92-8 705280-95-1 705280-96-2**

RL: DEV (Device component use); USES (Uses)

(phosphorescent organic **electroluminescent** device and display)

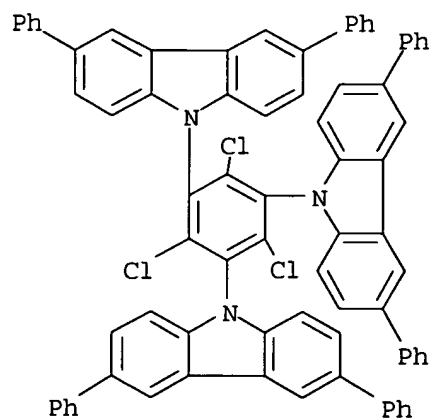
RN 705280-92-8 HCAPLUS

CN 9H-Carbazole-3,6-dicarbonitrile, 9,9',9''-(2,4,6-pyrimidinetriyl)tris-(9CI) (CA INDEX NAME)



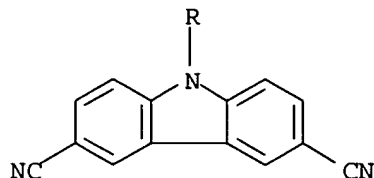
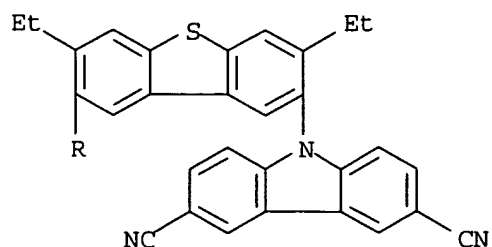
RN 705280-95-1 HCAPLUS

CN 9H-Carbazole, 9,9',9''-(2,4,6-trichloro-1,3,5-benzenetriyl)tris[3,6-diphenyl- (9CI) (CA INDEX NAME)



RN 705280-96-2 HCAPLUS

CN 9H-Carbazole-3,6-dicarbonitrile, 9,9'-(3,7-diethyl-2,8-dibenzothiophenediyl)bis- (9CI) (CA INDEX NAME)



L54 ANSWER 19 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:473163 HCAPLUS

DOCUMENT NUMBER: 141:30891

TITLE: Organic **electroluminescent** device and display

INVENTOR(S): Fukuda, Mitsuhiro; Kita, Hiroshi; Yamada, Taketoshi

PATENT ASSIGNEE(S): Japan

SOURCE: U.S. Pat. Appl. Publ., 37 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004110031	A1	20040610	US 2003-718360	20031120 <--
JP 2004178895	A2	20040624	JP 2002-342192	20021126
PRIORITY APPLN. INFO.:			JP 2002-342192	A 20021126 <--

OTHER SOURCE(S): MARPAT 141:30891

AB Disclosed is an organic **electroluminescent** device comprising a component layer including a light emission layer, wherein the light emission layer contains a phosphorescent compound, and the component layer contains a compound represented by A-(Z)_n, [A = (un)substituted aromatic ring residue; n = 3-6 integer; and Z = monovalent organic group represented by -L-Cz, [L = chemical bond and divalent linking group; Cz = (un)substituted carbazole residue], provided that A-(Z)_n does not have an n-fold axis of symmetry].

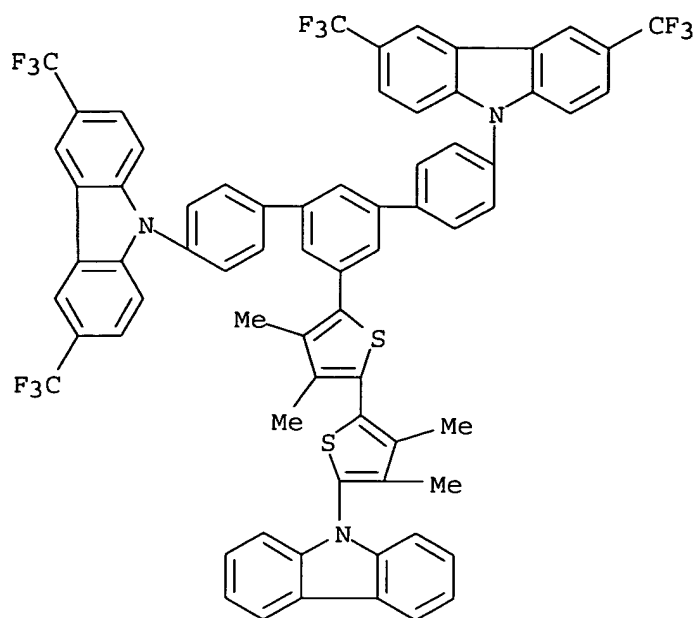
IT **699120-00-8P**

RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(organic **electroluminescent** device and display having light emitting layer containing phosphorescent substance)

RN 699120-00-8 HCAPLUS

CN 9H-Carbazole, 9,9'-[5'-(5'-(9H-carbazol-9-yl)-3,3',4,4'-tetramethyl[2,2'-bithiophen]-5-yl)][1,1':3',1''-terphenyl]-4,4''-diyl]bis[3,6-bis(trifluoromethyl)- (9CI) (CA INDEX NAME)



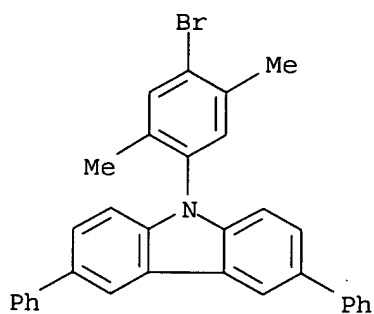
IT 699119-10-3P 699119-14-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(organic **electroluminescent** device and display having light emitting layer containing phosphorescent substance)

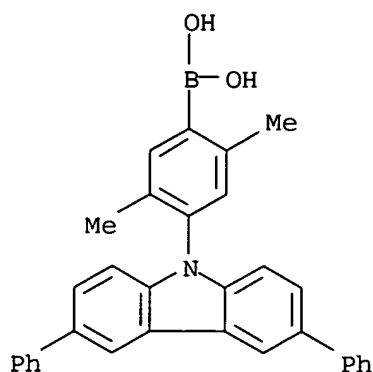
RN 699119-10-3 HCAPLUS

CN 9H-Carbazole, 9-(4-bromo-2,5-dimethylphenyl)-3,6-diphenyl- (9CI) (CA INDEX NAME)



RN 699119-14-7 HCAPLUS

CN Boronic acid, [4-(3,6-diphenyl-9H-carbazol-9-yl)-2,5-dimethylphenyl]- (9CI) (CA INDEX NAME)



L54 ANSWER 20 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:446941 HCAPLUS

DOCUMENT NUMBER: 141:30822

TITLE: Organic **electroluminescent** element, display and illuminator

INVENTOR(S): Oshiyama, Tomohiro; Kinoshita, Motoi; Yamada, Taketoshi; Kita, Hiroshi; Fukuda, Mitsuhiro; Suzuri, Yoshiyuki; Ueda, Noriko

PATENT ASSIGNEE(S): Konica Minolta Holdings Inc., Japan

SOURCE: Eur. Pat. Appl., 162 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1424381	A2	20040602	EP 2003-26685	20031120 <--
EP 1424381	A3	20050119		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2004335427	A2	20041125	JP 2003-160609	20030605 <--
US 2004115476	A1	20040617	US 2003-718025	20031120 <--
JP 2004311410	A2	20041104	JP 2004-49237	20040225 <--
JP 2004311412	A2	20041104	JP 2004-49239	20040225 <--
JP 2004311414	A2	20041104	JP 2004-49241	20040225 <--
PRIORITY APPLN. INFO.:			JP 2002-342193	A 20021126 <--
			JP 2003-61201	A 20030307 <--
			JP 2003-84071	A 20030326 <--
			JP 2003-84073	A 20030326 <--
			JP 2003-84075	A 20030326 <--
			JP 2003-160609	A 20030605 <--

OTHER SOURCE(S): MARPAT 141:30822

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The invention refers to an organic **electroluminescent** element

comprising a component layer between an anode and cathode containing a compound represented by $X1-(A1)_n$ wherein $A1 = I$ (Ar = divalent aromatic hydrocarbon or aromatic heterocyclic; $R1,2 = H$, (un)substituted alkyl, cycloalkyl, aralkyl, aryl, alkoxy, aryloxy, or alkenyl, cyano, hydroxyl or halo; $n_a, n_b = 1 - 4$; $X1 = II - XII$; $R11-14, R21-24, R31-34 = H$, (un)substituted alkyl, cycloalkyl, aralkyl, aryl, alkoxy, aryloxy, or alkenyl, cyano, hydroxyl or halo; $R41,42, R61 = alkyl$; $R51-52 = (un)substituted alkyl, cycloalkyl, aralkyl, aryl, alkoxy, aryloxy or alkenyl, cyano, hydroxyl or halo$; $Xa =$ divalent unsubstituted alkyl-substituted or 6- or 7-membered monocyclic heterocycle; $R71-78, R81-88, R91-98 = H, alkyl, *$ represents a linkage site).

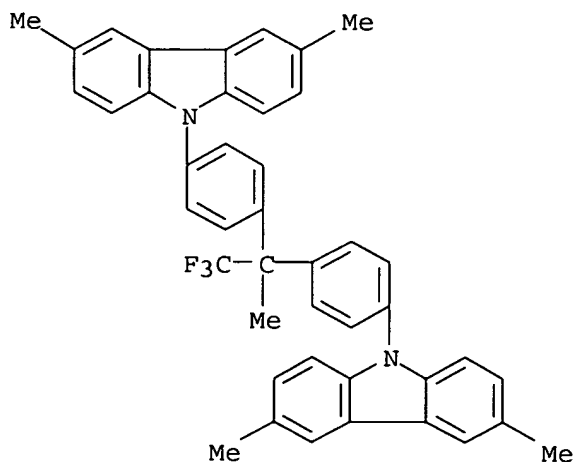
IT 697312-15-5 697312-16-6 697312-25-7
697312-27-9 697312-28-0 697312-32-6
697312-33-7

RL: DEV (Device component use); USES (Uses)

(organic electroluminescent element, display and illuminator)

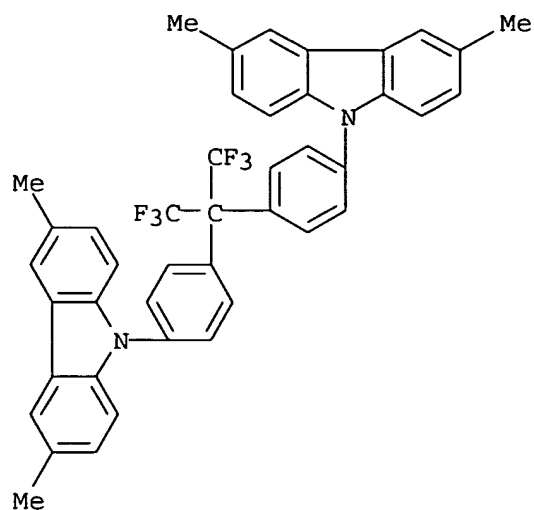
RN 697312-15-5 HCAPLUS

CN 9H-Carbazole, 9,9'-[(2,2,2-trifluoro-1-methylethylidene)di-4,1-phenylene]bis[3,6-dimethyl- (9CI) (CA INDEX NAME)



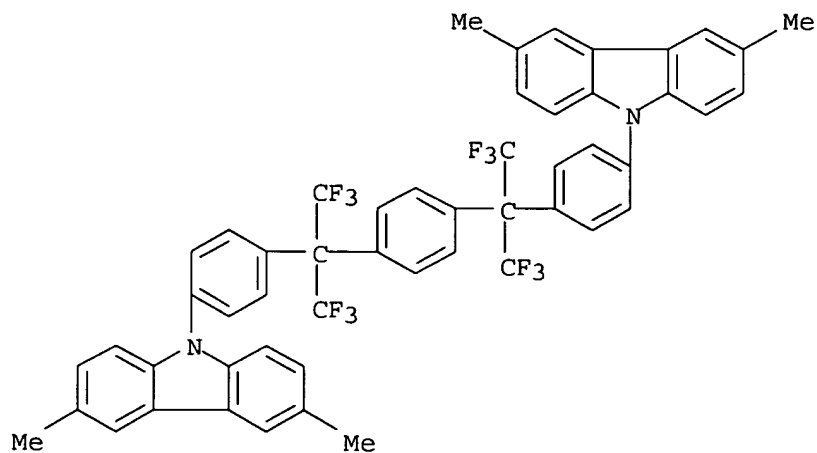
RN 697312-16-6 HCAPLUS

CN 9H-Carbazole, 9,9'-[[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]di-4,1-phenylene]bis[3,6-dimethyl- (9CI) (CA INDEX NAME)



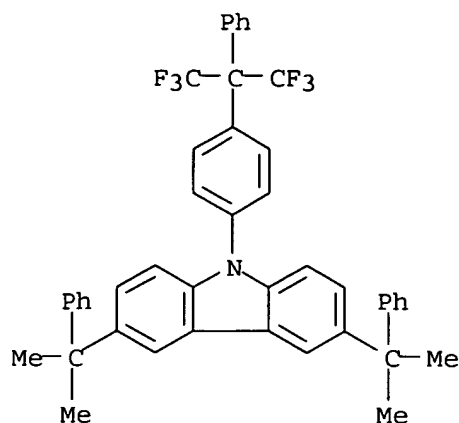
RN 697312-25-7 HCAPLUS

CN 9H-Carbazole, 9,9'-[1,4-phenylenebis[[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]-4,1-phenylene]]bis[3,6-dimethyl- (9CI) (CA INDEX NAME)]



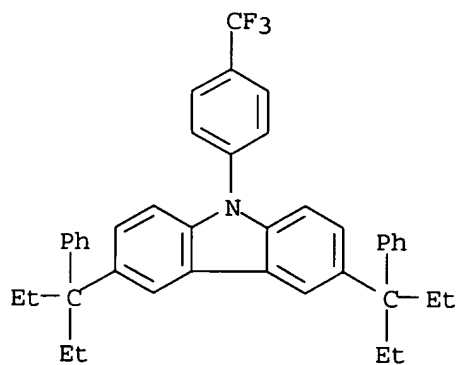
RN 697312-27-9 HCAPLUS

CN 9H-Carbazole, 3,6-bis(1-methyl-1-phenylethyl)-9-[4-[2,2,2-trifluoro-1-phenyl-1-(trifluoromethyl)ethyl]phenyl]- (9CI) (CA INDEX NAME)]



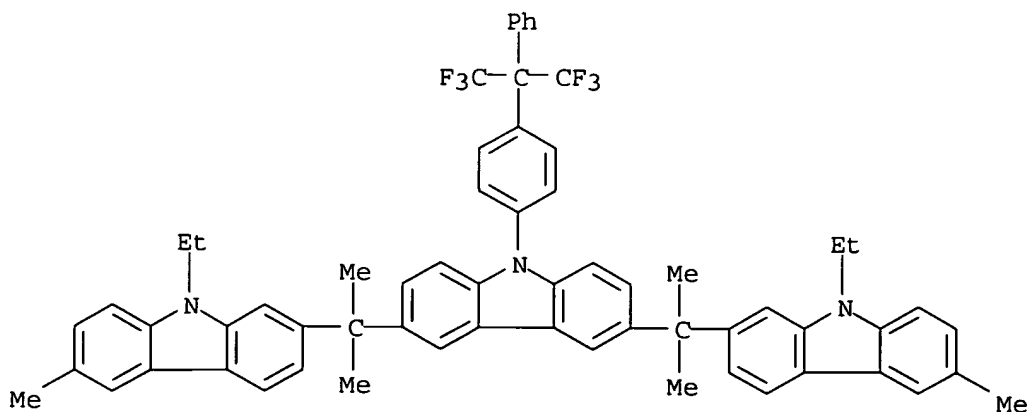
RN 697312-28-0 HCAPLUS

CN 9H-Carbazole, 3,6-bis(1-ethyl-1-phenylpropyl)-9-[4-(trifluoromethyl)phenyl]- (9CI) (CA INDEX NAME)



RN 697312-32-6 HCAPLUS

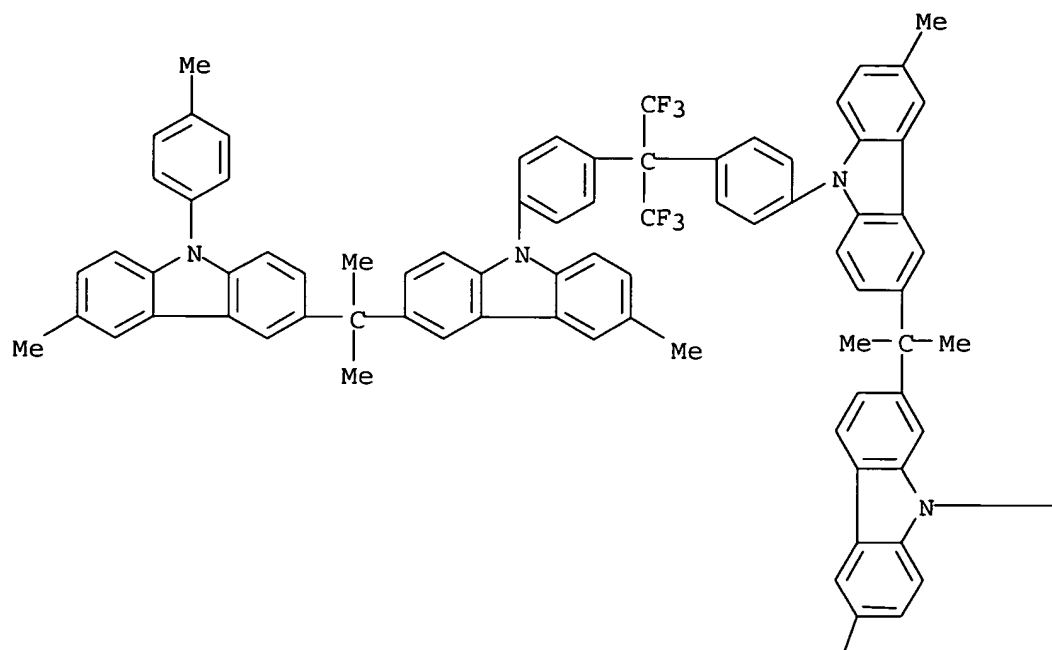
CN 9H-Carbazole, 3,6-bis[1-(9-ethyl-6-methyl-9H-carbazol-2-yl)-1-methylethyl]-9-[4-(2,2,2-trifluoro-1-phenyl-1-(trifluoromethyl)ethyl)phenyl]- (9CI) (CA INDEX NAME)



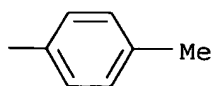
RN 697312-33-7 HCAPLUS

CN 9H-Carbazole, 3-methyl-6-[1-methyl-1-[6-methyl-9-(4-methylphenyl)-9H-carbazol-2-yl]ethyl]-9-[4-[2,2,2-trifluoro-1-[4-[3-methyl-6-[1-methyl-1-[6-methyl-9-(4-methylphenyl)-9H-carbazol-3-yl]ethyl]-9H-carbazol-9-yl]phenyl]-1-(trifluoromethyl)ethyl]phenyl]- (9CI) (CA INDEX NAME)

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PAGE 2-A

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L54 ANSWER 21 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:250474 HCAPLUS
DOCUMENT NUMBER: 140:294525
TITLE: Organic **electroluminescent** device
INVENTOR(S): Ishii, Toru; Seki, Mieko; Yoneyama, Hiroto; Okuda,
Daisuke; Hirose, Eiichi; Ozaki, Tadayoshi; Agata,
Takeshi; Mashimo, Kiyokazu; Sato, Katsuhiro
PATENT ASSIGNEE(S): Fuji Xerox Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 45 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2004095428	A2	20040325	JP 2002-256498	20020902 <--
PRIORITY APPLN. INFO.: GI			JP 2002-256498	20020902 <--

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The invention relates to an organic **electroluminescent** device comprising charge transporting polyether containing a partial structure represented by I and II [X = divalent aromatic group; T = C1-6 divalent chain hydrocarbon, and C2-10 divalent branched hydrocarbon; R1 = H, C1-10 hydrocarbon, C1-4 alkoxy, cyano, etc.; k = 0 or 1].

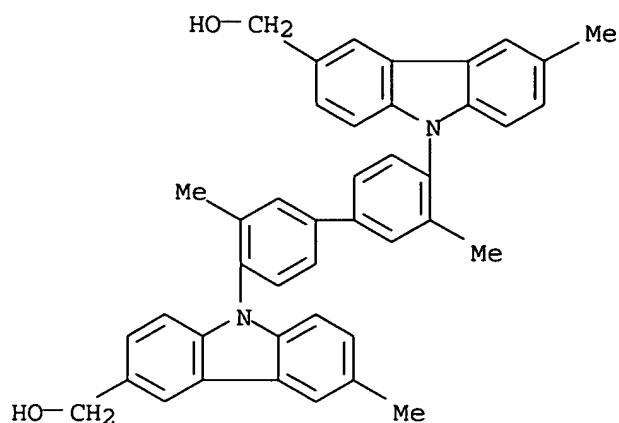
IT **675622-71-6P 675622-74-9P 675622-77-2P**
RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)
(organic **electroluminescent** device comprising charge transporting polyether)

RN 675622-71-6 HCAPLUS

CN 9H-Carbazole-3-methanol, 9,9'-(3,3'-dimethyl[1,1'-biphenyl]-4,4'-diyl)bis[6-methyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 675622-70-5
CMF C42 H36 N2 O2



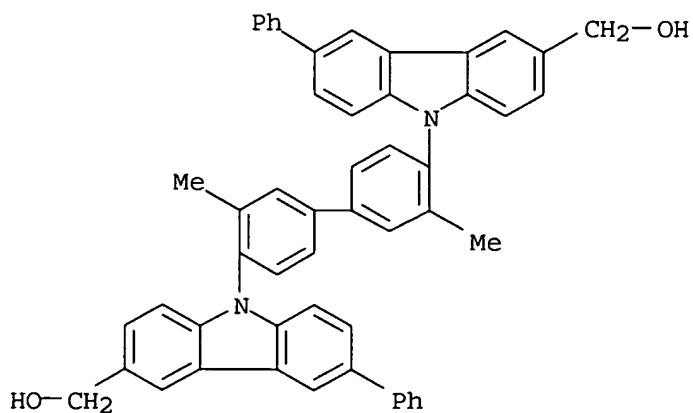
RN 675622-74-9 HCAPLUS

CN 9H-Carbazole-3-methanol, 9,9'-(3,3'-dimethyl[1,1'-biphenyl]-4,4'-diyl)bis[6-phenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 675622-73-8

CMF C52 H40 N2 O2



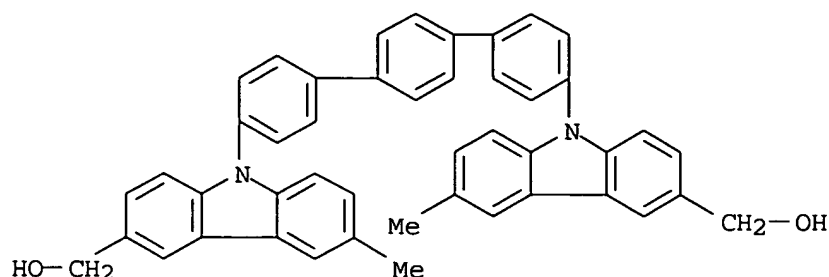
RN 675622-77-2 HCAPLUS

CN 9H-Carbazole-3-methanol, 9,9'-[1,1':4',1''-terphenyl]-4,4''-diylbis[6-methyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 675622-76-1

CMF C46 H36 N2 O2



L54 ANSWER 22 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:200969 HCAPLUS

DOCUMENT NUMBER: 140:261489

TITLE: Organic **electroluminescent** device and display apparatus showing improved brightness, light-efficiency, and durability

INVENTOR(S): Matsuura, Mitsunobu; Kinoshita, Motoki; Yamada, Taketoshi; Kita, Hiroshi

PATENT ASSIGNEE(S): Konica Minolta Holdings Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 43 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

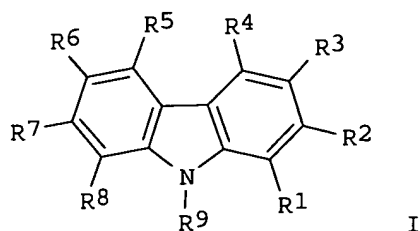
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004079265	A2	20040311	JP 2002-235613	20020813 <--
PRIORITY APPLN. INFO.:			JP 2002-235613	20020813 <--
OTHER SOURCE(S):	MARPAT 140:261489			

GI



AB The title organic **electroluminescent** display device contains a 350-2000 mol. weight carbazole derivative(s) represented by I (R1-8 = H, alkyl, aryl, alkyloxy, aryloxy, alkylthio, arylthio, amino, alkylamino, arylamino, heterocyclyl, silyl; R9 = alkyl) as a host compound. The organic **electroluminescent** display device contains a phosphor compound dopant selected from Ir compound, Os compound, and Pt compound, preferably Ir compound.

IT 669072-60-0

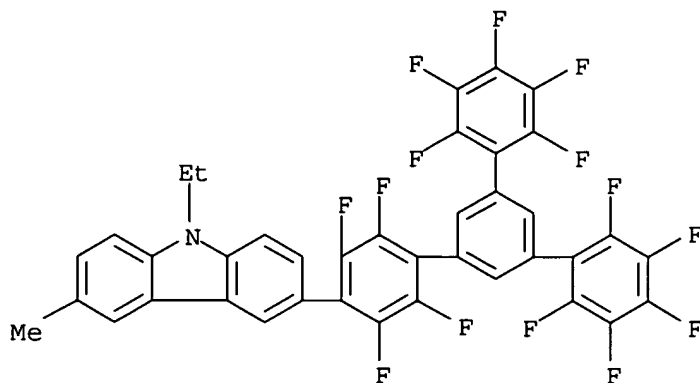
RL: DEV (Device component use); USES (Uses)

(carbazole host compound; organic **electroluminescent** display

showing improved brightness, light-efficiency, and durability)

RN 669072-60-0 HCAPLUS

CN 9H-Carbazole, 9-ethyl-3-methyl-6-[2,2'',3,3'',4'',5,5'',6,6''-nonafluoro-5'-(pentafluorophenyl)[1,1':3',1''-terphenyl]-4-yl]- (9CI) (CA INDEX NAME)



L54 ANSWER 23 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:57598 HCAPLUS

DOCUMENT NUMBER: 140:101806

TITLE: Carbazole compounds, their polymers, and light-emitting elements using them with excellent blue light emission

INVENTOR(S): Watanabe, Saisuke; Okada, Hisashi

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 27 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004018787	A2	20040122	JP 2002-179094	20020619 <--
PRIORITY APPLN. INFO.:			JP 2002-179094	20020619 <--

OTHER SOURCE(S): MARPAT 140:101806

AB The compds. are 3-R1-6-R2-9-R3-substituted carbazole [R1,2 = (un)substituted 9-carbazolyl; R3 = H2C:CRX; R = H, substituent; X = single bond, divalent organic group].

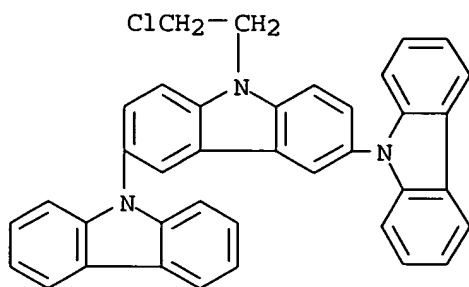
IT **644979-46-4P**

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(for monomer preparation; carbazole compds. for host polymers for organic electroluminescent devices with good blue light emission)

RN 644979-46-4 HCAPLUS

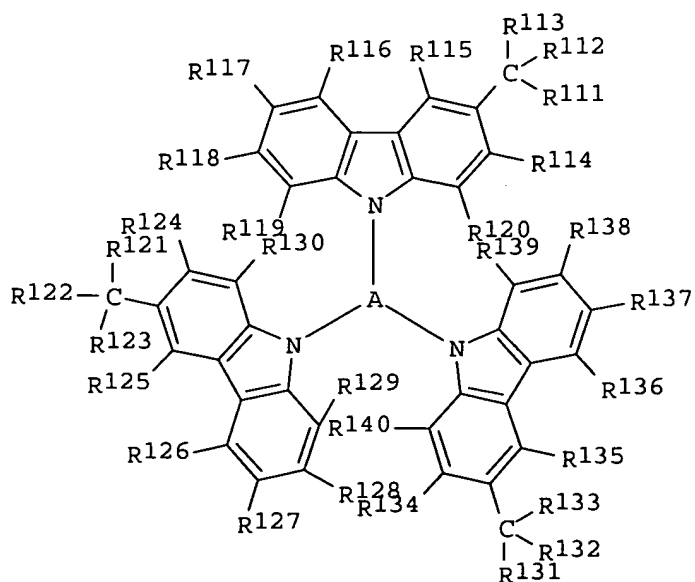
CN 9,3':6',9''-Ter-9H-carbazole, 9'-(2-chloroethyl)- (9CI) (CA INDEX NAME)



L54 ANSWER 24 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2003:929533 HCAPLUS
 DOCUMENT NUMBER: 140:5074
 TITLE: Dibenzopyrrolidine derivatives for organic
electroluminescent devices
 INVENTOR(S): Kimura, Keizo
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 22 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003335753	A2	20031128	JP 2002-140589	20020515 <--
PRIORITY APPLN. INFO.:			JP 2002-140589	20020515 <--
OTHER SOURCE(S):	MARPAT	140:5074		

GI



I

AB The derivs. are I (R111,R112, R121, R122, R131, R132 = alkyl, aryl; R113, R123, R133 = H, alkyl, aryl; R117, R127, R137 = alkyl; R114-R116, R118-R120, R124-R126, R128-R130, R134-R136, R138-R140 = H, substituent; A = aryltriyl). The devices show high luminescence intensity and efficiency after storage at high temperature

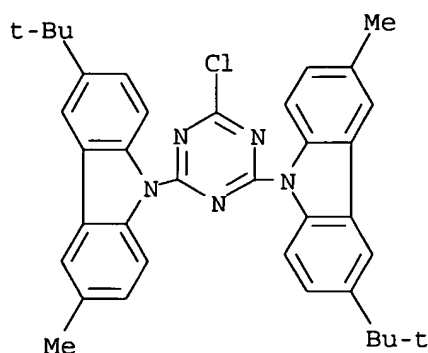
IT **625849-24-3P**

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(dibenzopyrrolidine derivs. for organic **electroluminescent** devices)

RN 625849-24-3 HCAPLUS

CN 9H-Carbazole, 9,9'-(6-chloro-1,3,5-triazine-2,4-diyl)bis[3-(1,1-dimethylethyl)-6-methyl- (9CI) (CA INDEX NAME)



L54 ANSWER 25 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:856183 HCAPLUS

DOCUMENT NUMBER: 139:355885

TITLE: Materials for organic electronic devices

INVENTOR(S): Wolk, Martin B.; Bentsen, James G.; Roberts, Ralph R.; Staral, John S.; Li, Yingbo

PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA

SOURCE: PCT Int. Appl., 149 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003090502	A2	20031030	WO 2003-US11759	20030415 <--
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			

US 2003219625 A1 20031127 US 2003-414066 20030415 <--
 PRIORITY APPLN. INFO.: US 2002-373857P P 20020419 <--
 OTHER SOURCE(S): MARPAT 139:355885

AB A compns. to be used as a charge transporting material, a charge blocking material, a light-emitting material, a color conversion material or a combination of them, is described comprising a first compound of general formula [EC]_n-AR, wherein n = 2-4, and AR is an aromatic core and is a divalent, trivalent or tetravalent radical of compds. referenced in the content, wherein EC is a first end capping group which is a monovalent radical of compds. referenced in the content, a second compound selected from a charge transporting, a charge blocking, a light emitting, or a color conversion material, or a combination of them, the second compound having an aromatic radical AR; a second end capping group that comprises the first end capping group of the first compound, a divalent radical that comprises a divalent radical of the first end capping group of the first compound, wherein the aromatic radical, the second end capping group and the divalent radical in the second compound may be (un)substituted, wherein the composition is amorphous and solution processible. An organic electronic device

comprising the composition compound is also described. A method of fabricating an organic **electroluminescent** device comprising a transfer layer comprising the composition is also described.

IT **618442-67-4P**

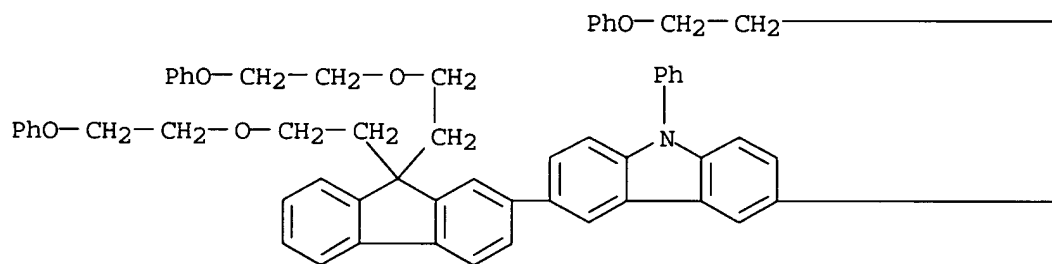
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(composition compds. for organic electronic devices)

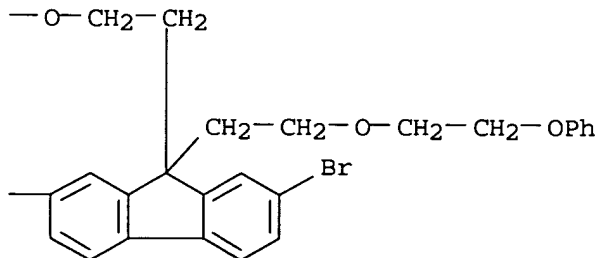
RN 618442-67-4 HCAPLUS

CN 9H-Carbazole, 3-[9,9-bis[2-(2-phenoxyethoxy)ethyl]-9H-fluoren-2-yl]-6-[7-bromo-9,9-bis[2-(2-phenoxyethoxy)ethyl]-9H-fluoren-2-yl]-9-phenyl- (9CI)
 (CA INDEX NAME)

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PAGE 1-B



L54 ANSWER 26 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:777920 HCAPLUS

DOCUMENT NUMBER: 139:299015

TITLE: Carbazole derivative for organic
electroluminescent devices and organic
electroluminescent devicesINVENTOR(S): Iwakuma, Toshihiro; Yamamoto, Hiroshi; Hironaka,
Yoshio; Ikeda, Hidetsugu; Hosokawa, Chishio; Tomita,
Seiji; Arakane, Takashi

PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan

SOURCE: PCT Int. Appl., 68 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003080760	A1	20031002	WO 2003-JP3329	20030319 <--
W: CN, IN, JP, KR				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR				
EP 1489155	A1	20041222	EP 2003-712758	20030319 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, CY, TR, BG, CZ, EE, HU, SK				
US 2004086745	A1	20040506	US 2003-393988	20030324 <--
PRIORITY APPLN. INFO.:				
			JP 2002-81234	A 20020322 <--
			JP 2002-299810	A 20021015 <--
			WO 2003-JP3329	W 20030319 <--

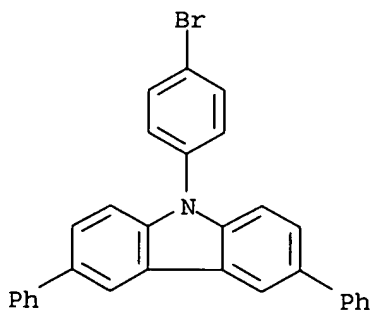
AB The invention refers to a material for blue **electroluminescent** devices having the structure (Cz)_nA or Cz(A)_n [Cz = (un)substituted arylcarbazolyl or carbazoylyl alkylene; A = MpLqM'_r; M, M' = (un)substituted C2-40 heteroarom. rings; L = single bond, (un)substituted C6-30 aryl or arylene, C5-30 cycloalkylene, photorefractive C2-30 heteroarom.; p, r = 0 - 2; q = 1 - 2; p + r > 1].

IT **607739-92-4**, 3,6-Diphenyl-9-(bromophenyl)carbazole

RL: RCT (Reactant); RACT (Reactant or reagent)

(carbazole derivative for organic **electroluminescent** devices and organic **electroluminescent** devices)RN **607739-92-4** HCAPLUS

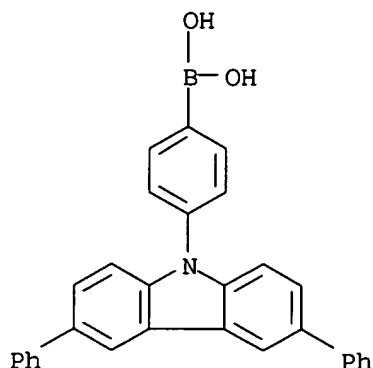
CN 9H-Carbazole, 9-(4-bromophenyl)-3,6-diphenyl- (9CI) (CA INDEX NAME)

IT **607739-93-5P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
(carbazole derivative for organic **electroluminescent** devices and
organic **electroluminescent** devices)

RN 607739-93-5 HCAPLUS

CN Boronic acid, [4-(3,6-diphenyl-9H-carbazol-9-yl)phenyl]- (9CI) (CA INDEX
NAME)



REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 27 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:767752 HCAPLUS

DOCUMENT NUMBER: 139:276720

TITLE: Preparation of fluorenes as intermediates for
charge-transfer and hole-transporting materials for
electrophotographic photoreceptors and light-emitting
diodes

INVENTOR(S): Shimamura, Takehiko; Tanabe, Yoshimitsu; Ishida,
Tsutomu; Totani, Yoshiyuki; Nakatsuka, Masakatsu;
Yoshitomi, Yukiko; Wada, Masaru

PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 32 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

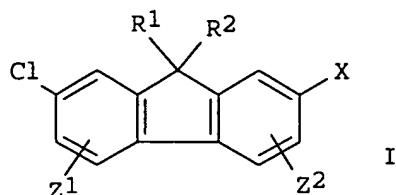
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003277305	A2	20031002	JP 2002-75916	20020319 <--
PRIORITY APPLN. INFO.:			JP 2002-75916	20020319 <--
OTHER SOURCE(S):	MARPAT	139:276720		

GI



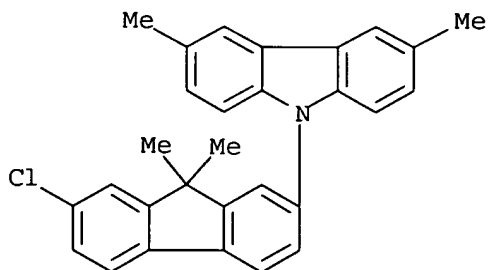
AB Fluorenes I [R1, R2 = H, linear, branched, or cyclic alkyl, (un)substituted aryl, (un)substituted aralkyl; X = Br, iodine, NAr1Ar2; Z1, Z2 = H, halo, linear, branched, or cyclic alkyl(oxy), (un)substituted aryl; Ar1, Ar2 = (un)substituted aryl; NAr1Ar2 may form heterocyclyl] are prepared. Thus, 2-chloro-7-iodo-9,9-dimethylfluorene was treated with N,N-diphenylamine in the presence of Cu powder and K2CO3 to afford 91% I (R1 = R2 = Me, X = Ph2N, Z1 = Z2 = H), vs. 9%, when 2,7-diiodo-9,9-dimethylfluorene was used instead.

IT 605630-45-3P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of chlorofluorenes as intermediates for asym. fluorenes as charge-transfer and hole-transporting materials for electrophotog. photoreceptors and light-emitting diodes)

RN 605630-45-3 HCAPLUS

CN 9H-Carbazole, 9-(7-chloro-9,9-dimethyl-9H-fluoren-2-yl)-3,6-dimethyl-(9CI) (CA INDEX NAME)



L54 ANSWER 28 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:758033 HCAPLUS

DOCUMENT NUMBER: 139:283130

TITLE: Phosphorescent dendrimers for use in light-emitting devices

INVENTOR(S): Lo, Shih-chun; Burn, Paul Leslie; Samuel, Ifor David William; Anthopoulos, Thomas Dimitrios

PATENT ASSIGNEE(S): Isis Innovation Limited, UK; The University Court of the University of St. Andrews

SOURCE: PCT Int. Appl., 60 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

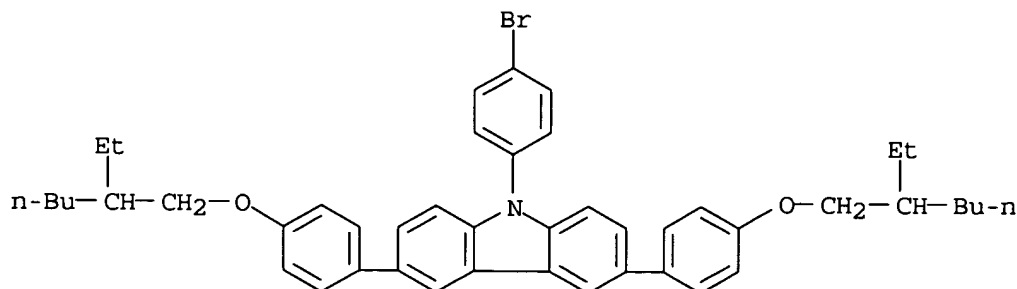
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2003079736      A1      20030925      WO 2003-GB1132      20030318 <--
W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
    CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
    GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS,
    LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL,
    PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA,
    UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW:  GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
    KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
    FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,
    BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
EP 1491074          A1      20041229      EP 2003-709993      20030318 <--
R:   AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
    IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
US 2005116622       A1      20050602       US 2003-508061      20030318 <--
JP 2005521210       T2      20050714       JP 2003-577583      20030318 <--
PRIORITY APPLN. INFO.:
                                GB 2002-6356      A 20020318 <--
                                GB 2002-20091     A 20020829 <--
                                GB 2002-20092     A 20020829 <--
                                WO 2003-GB1132     W 20030318 <--
AB   A light emitting device which comprises at least one layer that contains a
phosphorescent organometallic dendrimer with a metal cation and ≥2
coordinating groups as part of its core and wherein at least 2 of said
coordinating groups each have a dendron attached, at least one of which
dendrons comprises at least one N atom which forms part of an aromatic ring
system or is directly bonded to at least 2 aromatic groups.
IT   606932-39-2P
RL:  RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
      (Reactant or reagent)
      (phosphorescent dendrimers for use in light-emitting devices)
RN   606932-39-2 HCAPLUS
CN   9H-Carbazole, 9-(4-bromophenyl)-3,6-bis[4-[(2-ethylhexyl)oxy]phenyl]-
      (9CI) (CA INDEX NAME)

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REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 29 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:738070 HCAPLUS

DOCUMENT NUMBER: 139:267727

TITLE: Fluorinated organic **electroluminescent** device for long lifetimes

INVENTOR(S): Kamatani, Jun; Okada, Shinjiro; Tsuboyama, Akira; Takiguchi, Takao; Miura, Seishi; Moriyama, Takashi; Igawa, Satoshi; Furugori, Manabu; Iwawaki, Hironobu

PATENT ASSIGNEE(S): Canon Kabushiki Kaisha, Japan
SOURCE: PCT Int. Appl., 39 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003077609	A1	20030918	WO 2003-JP2693	20030307 <--
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
US 2003189216	A1	20031009	US 2003-424918	20030429 <--
US 6812497	B2	20041102		
US 2005037236	A1	20050217	US 2004-947152	20040923 <--
PRIORITY APPLN. INFO.:			JP 2002-63703	A 20020308 <--
			WO 2003-JP2693	A1 20030307 <--
			US 2003-424918	A3 20030429 <--

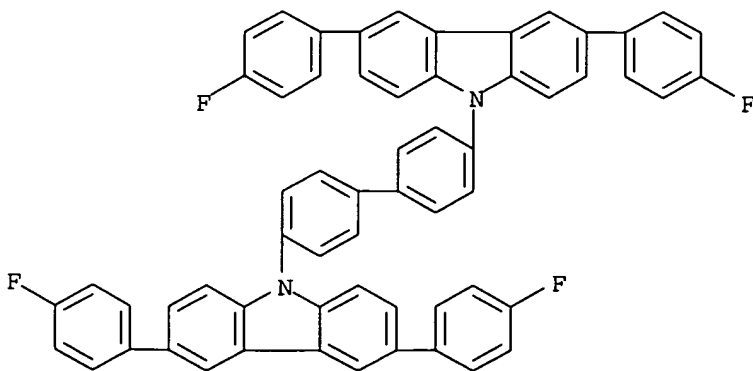
AB The invention refers to an organic **electroluminescent** device, suitable for use in flat panel displays and light sources, comprising a 1st organic layer with a fluorine-containing compound and a 2nd organic layer as emitting layers.

IT **602331-43-1**

RL: DEV (Device component use); USES (Uses)
(fluorinated organic **electroluminescent** device for long lifetimes)

RN 602331-43-1 HCAPLUS

CN 9H-Carbazole, 9,9'-[1,1'-biphenyl]-4,4'-diylbis[3,6-bis(4-fluorophenyl)- (9CI) (CA INDEX NAME)]



REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 30 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:349283 HCAPLUS

DOCUMENT NUMBER: 138:376099

TITLE: Organic **electroluminescent** devices of high brightness and luminescent efficiency and anthracene derivatives therefor

INVENTOR(S): Ishida, Tsutomu; Shimamura, Takehiko; Tanabe, Yoshimitsu; Totani, Yoshiyuki; Nakatsuka, Masakatsu

PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 99 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

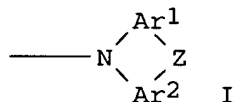
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2003128651	A2	20030508	JP 2001-317783	20011016 <--
PRIORITY APPLN. INFO.:			JP 2001-317783	20011016 <--
OTHER SOURCE(S):	MARPAT	138:376099		

GI



AB The anthracene derivs. have direct bonds between anthracene ring and fluorene ring and bear group I (Ar1, Ar2 = arylene; Z = bridging group).

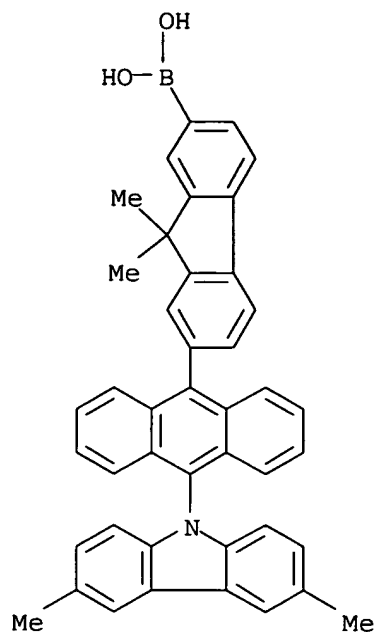
IT **522616-29-1 522616-32-6 522616-34-8**

RL: RCT (Reactant); RACT (Reactant or reagent)

(spirocyclic compds. containing direct bond between anthracene and fluorene rings for organic LED of high luminescent efficiency)

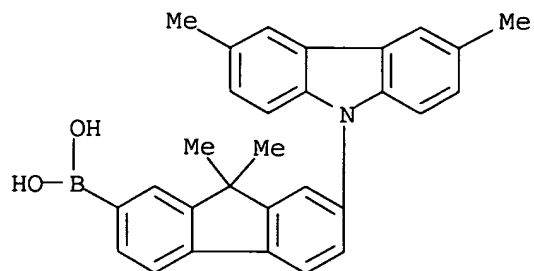
RN 522616-29-1 HCAPLUS

CN Boronic acid, [7-[10-(3,6-dimethyl-9H-carbazol-9-yl)-9-anthracenyl]-9,9-dimethyl-9H-fluoren-2-yl]- (9CI) (CA INDEX NAME)



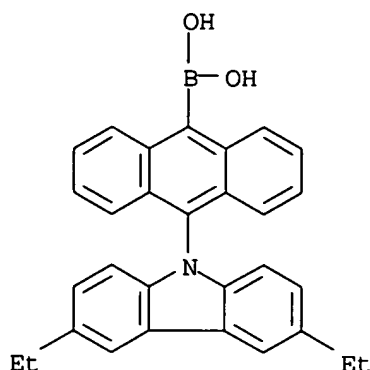
RN 522616-32-6 HCAPLUS

CN Boronic acid, [7-(3,6-dimethyl-9H-carbazol-9-yl)-9,9-dimethyl-9H-fluoren-2-yl]- (9CI) (CA INDEX NAME)



RN 522616-34-8 HCAPLUS

CN Boronic acid, [10-(3,6-diethyl-9H-carbazol-9-yl)-9-anthracenyl]- (9CI) (CA INDEX NAME)



L54 ANSWER 31 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:508433 HCAPLUS

DOCUMENT NUMBER: 137:233002

TITLE: Synthesis and characterization of new poly(aryl ether)s with isolated fluorophores

AUTHOR(S): Hwang, Shiao-Wen; Chen, Shinn-Horng; Chen, Yun

CORPORATE SOURCE: Department of Chemical Engineering, National Cheng Kung University, Tainan, 701, Taiwan

SOURCE: Journal of Polymer Science, Part A: Polymer Chemistry (2002), 40(14), 2215-2224

CODEN: JPACEC; ISSN: 0887-624X

PUBLISHER: John Wiley & Sons, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Four novel poly(aryl ether)s (P1-P4) consisting of alternate isolated electron-transporting (3,3'''-bis-trifluoromethyl-p-quaterphenyl for P1, P3 or 3,3'''-dicyano-p-quaterphenyl for P2, P4) and hole-transporting fluorophores [N-(2-ethyl-hexyl)-3,6-bis(styryl)carbazole for P1, P2 or 9,9-dihexyl-2,7-bis(styryl)fluorene for P3, P4] were synthesized and characterized. These poly(aryl ether)s can be dissolved in organic solvents and exhibited good thermal stability with 5% weight-loss temperature above 500°C in nitrogen atmosphere. The photoluminescent (PL) spectra of the films of these polymers showed maximum peaks at around 442-452 nm. The PL spectral results revealed that the emission of polymers was dominated by the fluorophores with longer emissive wavelength via the energy transfer from p-quaterphenyl to 3,6-bis(styryl)carbazole or 2,7-bis(styryl)fluorene segments. Therefore, the p-quaterphenyl segments function only as the electron-transporting/hole-blocking units in these polymers, and the other segments are the emissive centers and hole-transporting units. The HOMO and LUMO energy levels of these polymers were measured by cyclic voltammetry. The electron-donating nitrogen atom on carbazole resulted in the higher HOMO energy levels of P1 and P2 than those of P3 and P4. The single-layer light-emitting diodes (LED) of Al/poly(aryl ether)s (P1-P4)/ITO glass were fabricated. P1, P2, and P4 revealed blue **electroluminescence**, but P3 emitted yellow light as a result of the excimer emission.

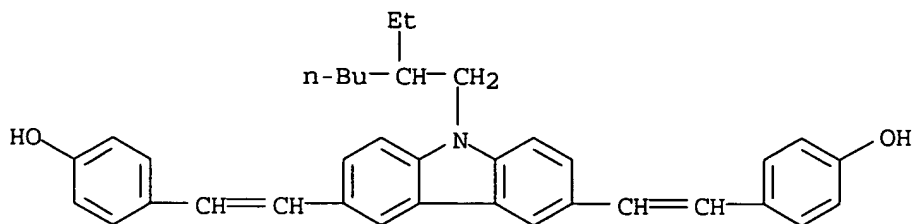
IT 444014-88-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(monomer; preparation of by hydrolysis, and in copolymer with quaterphenyl derivs.)

RN 444014-88-4 HCAPLUS

CN Phenol, 4,4'-[[9-(2-ethylhexyl)-9H-carbazole-3,6-diyl]di-2,1-ethenediyl]bis- (9CI) (CA INDEX NAME)



IT 458556-57-5P 458556-58-6P 458556-59-7P
458556-60-0P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(synthesis and properties of new poly(aryl ether)s with isolated fluorophores)

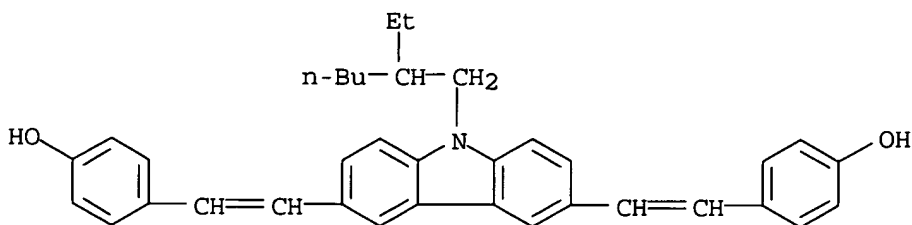
RN 458556-57-5 HCAPLUS

CN Phenol, 4,4'-[[9-(2-ethylhexyl)-9H-carbazole-3,6-diyl]di-2,1-ethenediyl]bis-, polymer with 4,4'''-difluoro-3,3'''-bis(trifluoromethyl)-1,1':4',1'':4'',1'''-quaterphenyl (9CI) (CA INDEX NAME)

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CRN 444014-88-4

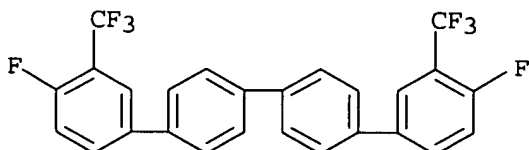
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CM 2

CRN 244030-17-9

CMF C26 H14 F8

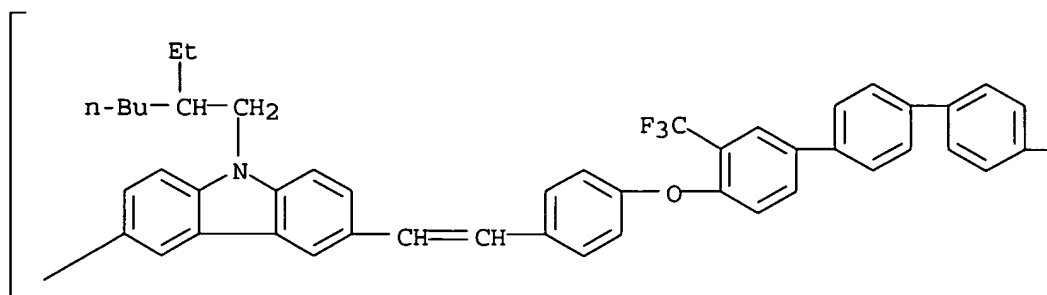


RN 458556-58-6 HCAPLUS

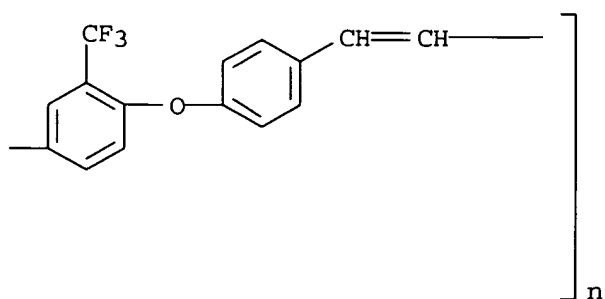
CN Poly[[9-(2-ethylhexyl)-9H-carbazole-3,6-diyl]-1,2-ethenediyl-1,4-phenyleneoxy[3,3'''-bis(trifluoromethyl)[1,1':4',1'':4'',1'''-quaterphenyl]-4,4'''-diyl]oxy-1,4-phenylene-1,2-ethenediyl] (9CI) (CA

INDEX NAME)

PAGE 1-A



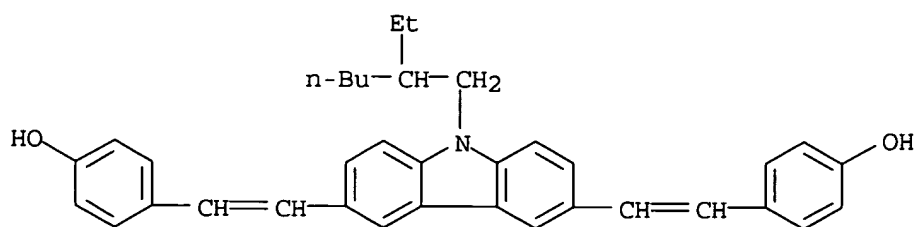
PAGE 1-B



RN 458556-59-7 HCAPLUS
 CN [1,1':4',1'':4'',1'''-Quaterphenyl]-3,3'''-dicarbonitrile,
 4,4'''-difluoro-, polymer with 4,4'-[[9-(2-ethylhexyl)-9H-carbazole-3,6-
 diyl]di-2,1-ethenediyl]bis[phenol] (9CI) (CA INDEX NAME)

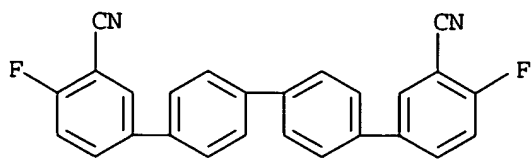
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CM 2

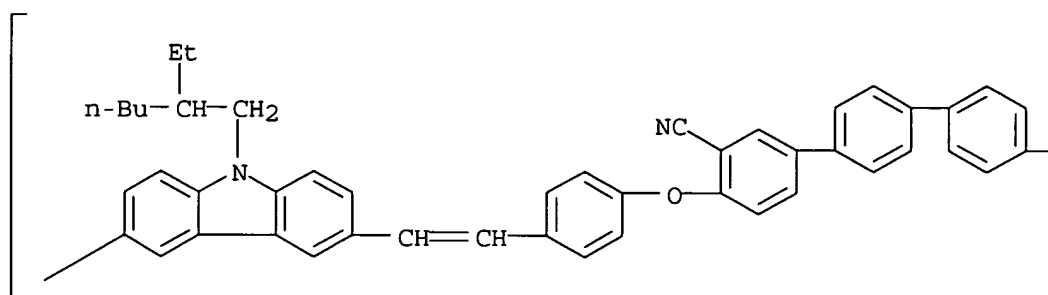
CRN 341036-58-6
 CMF C26 H14 F2 N2



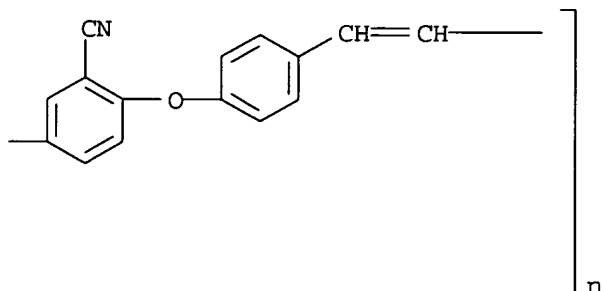
RN 458556-60-0 HCAPLUS

CN Poly[[9-(2-ethylhexyl)-9H-carbazole-3,6-diyl]-1,2-ethenediyl-1,4-phenyleneoxy(3,3'''-dicyano[1,1':4',1'':4'',1''':4''',1'''-quaterphenyl]-4,4'''-diyl)oxy-1,4-phenylene-1,2-ethenediyl] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 32 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:412819 HCAPLUS

DOCUMENT NUMBER: 137:125479

TITLE: Photoluminescent and Electrochemical Properties of Novel Poly(aryl ether)s with Isolated Hole-Transporting Carbazole and Electron-Transporting 1,3,4-Oxadiazole Fluorophores

AUTHOR(S): Hwang, Shiao-Wen; Chen, Yun

CORPORATE SOURCE: Department of Chemical Engineering, National Cheng Kung University, Tainan, Taiwan

SOURCE: Macromolecules (2002), 35(14), 5438-5443

CODEN: MAMOBX; ISSN: 0024-9297

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Four novel poly(aryl ether)s consisting of alternate isolated hole-transporting carbazole and electron-transporting 1,3,4-oxadiazole segments were synthesized from the nucleophilic displacement reaction of bis(fluoride) monomers with bis(phenol) monomers. These poly(aryl ether)s are soluble in common organic solvents and exhibit good thermal stability with 5% weight loss temperature above 400 °C under a nitrogen atmosphere. The photoluminescent (PL) spectra and quantum yields of these polymers are dependent on the composition of the two isolated fluorophores. The formation of exciplex in P3 was observed in the film and solution state and resulted in the lower quantum yield. The quantum yields of P4 in solns. can increase from 0.04 of P3 to 0.36, due to the dilute effect, by introducing the inert bisphenol A segments. However, the PL spectra of P4 only showed a little blue shift in the film state. This means the interchain exciplex still dominated the emission of polymeric films. The HOMO and LUMO energy levels of these polymers have been measured from cyclic voltammetry. All the observations directly proved that the oxidation in polymers started at the hole-transporting segments. Both the electron and hole affinities of these polymers could be enhanced simultaneously due to the introduction of isolated hole-transporting carbazole and electron-transporting 1,3,4-oxadiazole segments.

IT 444014-89-5P 444014-94-2P 444014-98-6P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(photoluminescent and electrochem. properties of poly(aryl ether)s with isolated carbazole and 1,3,4-oxadiazole fluorophores)

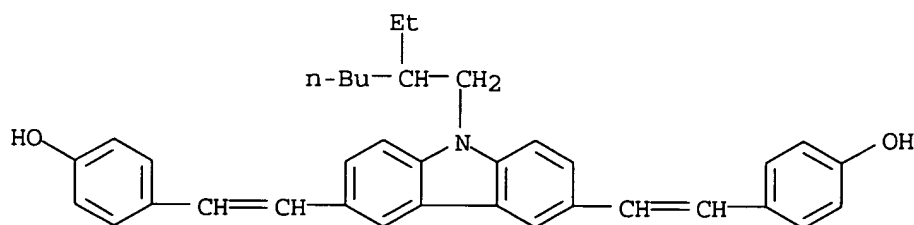
RN 444014-89-5 HCAPLUS

CN Phenol, 4,4'-[[9-(2-ethylhexyl)-9H-carbazole-3,6-diyl]di-2,1-ethenediyl]bis-, polymer with 2,5-bis(4-fluorophenyl)-1,3,4-oxadiazole (9CI) (CA INDEX NAME)

CM 1

CRN 444014-88-4

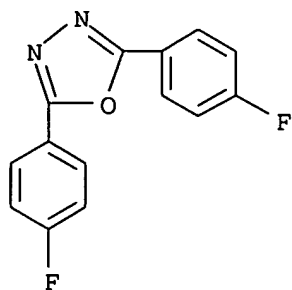
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CM 2

CRN 324-81-2

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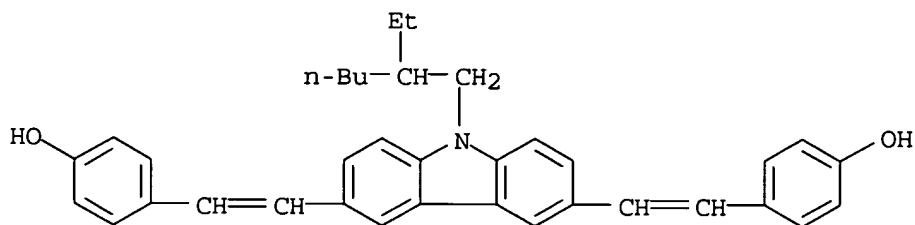
RN 444014-94-2 HCAPLUS

CN Phenol, 4,4'-[[9-(2-ethylhexyl)-9H-carbazole-3,6-diyl]di-2,1-ethenediyl]bis-, polymer with 2,2'-[2,5-bis(hexyloxy)-1,4-phenylene]bis[5-(4-fluorophenyl)-1,3,4-oxadiazole] (9CI) (CA INDEX NAME)

CM 1

CRN 444014-88-4

CMF C36 H37 N O2

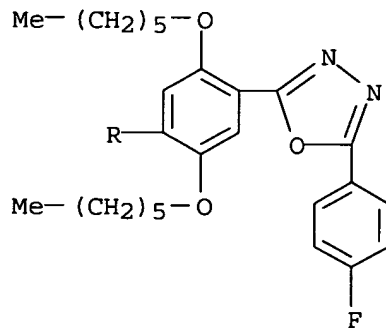


CM 2

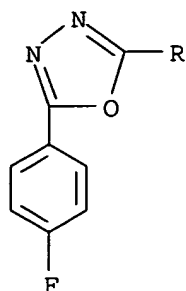
CRN 444014-83-9

CMF C34 H36 F2 N4 O4

PAGE 1-A



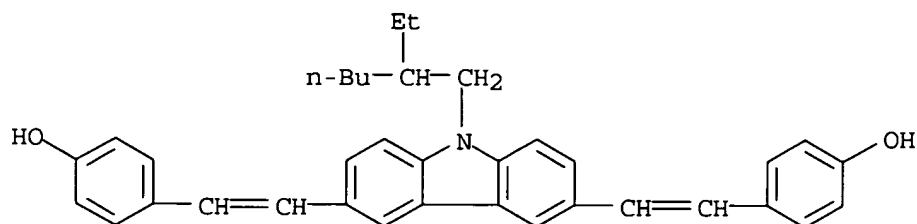
PAGE 2-A



RN 444014-98-6 HCAPLUS
 CN Phenol, 4,4'-[[9-(2-ethylhexyl)-9H-carbazole-3,6-diyl]di-2,1-ethenediyl]bis-, polymer with 2,2'-[2,5-bis(hexyloxy)-1,4-phenylene]bis[5-(4-fluorophenyl)-1,3,4-oxadiazole] and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

CM 1

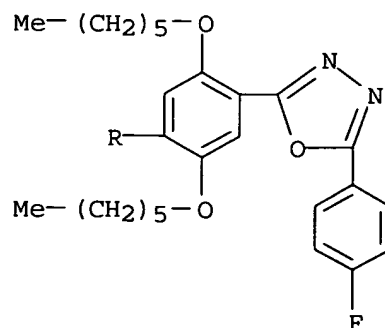
CRN 444014-88-4
 CMF C36 H37 N O2



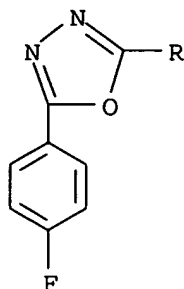
CM 2

CRN 444014-83-9
 CMF C34 H36 F2 N4 O4

PAGE 1-A



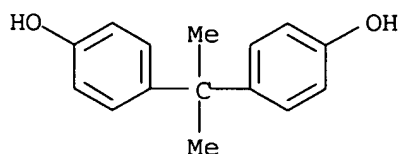
PAGE 2-A



CM 3

CRN 80-05-7

CMF C15 H16 O2



REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 33 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:910919 HCAPLUS

DOCUMENT NUMBER: 136:263814

TITLE: Synthesis and properties of novel **electroluminescent** oligomers containing carbazolylene-vinylene-sulfonylene units for a light-emitting diode

AUTHOR(S): Jung, Ho Kuk; Lee, Chang-Lyoul; Lee, Jin Kyun; Kim, Jai Kyeong; Park, Soo Young; Kim, Jang-Joo

CORPORATE SOURCE: School of Materials Science and Engineering, Seoul National University, Shilim-dong, Kwanak-gu, Seoul, 151-742, S. Korea

SOURCE: Thin Solid Films (2001), 401(1,2), 111-117
CODEN: THSFAP; ISSN: 0040-6090

PUBLISHER: Elsevier Science S.A.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB As a new class of spin-coatable **electroluminescent** oligomers, oligo(N-ethylhexyl-3,6-carbazolylenevinylene-alt-4,4'-diphenylvinylene-sulfone) (P1) and oligo(N-ethylhexyl-3,6-carbazoledivinylene-p-phenylenevinylene) (P2) were synthesized through Wittig polycondensation of N-(2-ethylhexyl)-3,6-diformyl carbazole with the diphosphonium salts of bis(bromomethyl-p-phenyl)-sulfone and α,α' -dibromo-p-xylene, resp. These **electroluminescent** (EL) oligomers were highly soluble in common organic solvents, forming excellent-quality optical films by spin coating. Films obtained were very transparent, tough, and smooth with initial decomposition temperature of ca. 400°C. Greenish-blue

photoluminescence (PL) and **electroluminescence** (EL) was obtained for both oligomer films. It was found that the relative EL quantum efficiency of single-layer P1 device was five-fold higher than that of the P2 device, which was attributed to the lowered mol. energy levels of the former due to the presence of the sulfonylene group.

IT 405107-98-4P

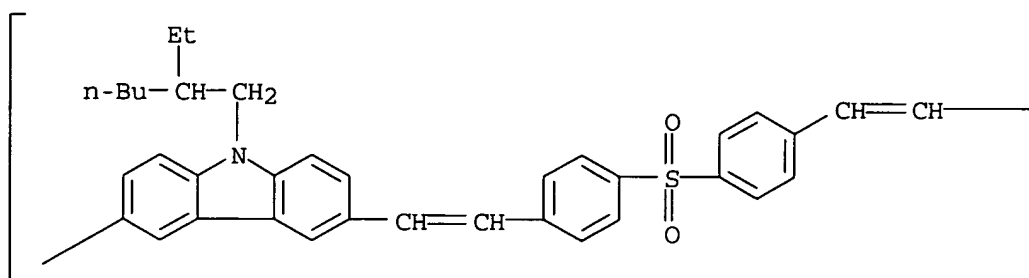
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(synthesis and properties of novel **electroluminescent** oligomers)

RN 405107-98-4 HCAPLUS

CN Poly[[9-(2-ethylhexyl)-9H-carbazole-3,6-diyl]-1,2-ethenediyl-1,4-phenylenesulfonyl-1,4-phenylene-1,2-ethenediyl] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

[]_n

REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 34 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:866148 HCAPLUS

DOCUMENT NUMBER: 136:135116

TITLE: Synthesis and luminescent properties of blue light emitting polymers containing both hole and electron transporting units

AUTHOR(S): Ahn, Taek; Shim, Hong-Ku

CORPORATE SOURCE: Center for Advanced Functional Polymers, Department of Chemistry and School of Molecular Science (BK21), Korea Advanced Institute of Science and Technology, Taejeon, 305-701, S. Korea

SOURCE: Macromolecular Chemistry and Physics (2001), 202(16), 3180-3188

CODEN: MCHPES; ISSN: 1022-1352

PUBLISHER: Wiley-VCH Verlag GmbH
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Poly[(oxy-4,4'-octa-fluoro biphenyl-oxy)-1,4-phenylenevinylene-2-methoxy-5-(2-ethylhexyl-oxy)-1,4-phenylenevinylene-1,4-phenylene], POFB-MEH-PPV, poly[(oxy-4,4'-octa-fluoro biphenyl-oxy)-1,4-phenylenevinylene-9,9-dihexyl-2,7-fluorene diyl-vinylene-1,4-phenylene], POFB-PF, and poly[(oxy-4,4'-octa-fluoro biphenyl-oxy)-1,4-phenylenevinylene-N-ethylhexyl-3,6-carbazole vinylene-1,4-phenylene], POFB-PK, were synthesized by the well-known Wittig condensation polymerization. We incorporated

the high electron affinity (octa-fluoro biphenyl) and hole-transporting (carbazole, fluorene, and dialkoxy phenyl) units into the conjugated main chain. The conjugation lengths are limited to the blue-emission region by ether linkage. The resulting polymers were completely soluble in common organic

solvents such as chloroform, 1,2-dichloroethane, and cyclohexanone, and exhibited good thermal stability up to 300°C. The synthesized polymers showed UV-visible absorbance and photoluminescence (PL) in the ranges of 350-385 nm and 460-490 nm, resp. The fluorene or carbazole containing POFB-PF and POFB-PK showed blue photoluminescence peaks at 470 and 460 nm, resp. The single-layer light-emitting diode was fabricated in a configuration of ITO (indium-tin oxide)/polymer/Al.

Electroluminescence (EL) emission of POFB-PF and POFB-PK were shown at 475 and 458 nm, resp., corresponding to the pure blue emissions. And, a dialkoxy-Ph containing POFB-MEH-PPV showed greenish blue light at 494 nm. But, LED devices from synthesized polymers showed poor device performance and high turn on voltage. So, we fabricated light-emitting diodes (LEDs) from blend polymers composed of poly[2-methoxy-5-(2-ethylhexyl-oxy)-1,4-phenylenevinylene] (MEH-PPV) and POFB-MEH-PPV (POFB-PF or POFB-PK) as the emitting layers. The EL emission maxima of each blend polymers were in the range of 573-591 nm, which indicates that the emission is mainly due to MEH-PPV and POFB-MEH-PPV (POFB-PF or POFB-PK) contributes to the enhancement of the luminescence. And each blend polymers exhibited higher EL quantum efficiency compared with MEH-PPV at the same c.d.

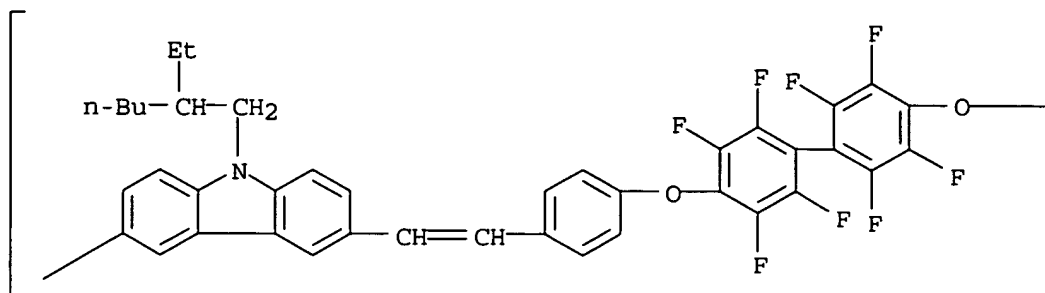
IT **352354-15-5P**

RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (blue light emitting polymers containing both hole and electron transporting units)

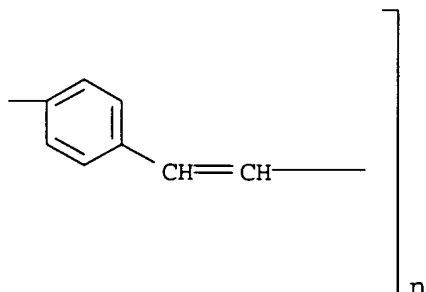
RN 352354-15-5 HCAPLUS

CN Poly[[9-(2-ethylhexyl)-9H-carbazole-3,6-diyl]-1,2-ethenediyl-1,4-phenyleneoxy(2,2',3,3',5,5',6,6'-octafluoro[1,1'-biphenyl]-4,4'-diyl)oxy-1,4-phenylene-1,2-ethenediyl] (9CI) (CA INDEX NAME)

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REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 35 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:567334 HCAPLUS

DOCUMENT NUMBER: 135:122935

TITLE: Bicarbazyl-based (poly)condensation products, their preparation and use

INVENTOR(S): Ades, Dominique; Boucard, Valerie; Siove, Alain

PATENT ASSIGNEE(S): Therapeutiques Substitutives, Fr.

SOURCE: Fr. Demande, 23 pp.

CODEN: FRXXBL

DOCUMENT TYPE: Patent

LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2800080	A1	20010427	FR 1999-13235	19991022 <--
PRIORITY APPLN. INFO.:			FR 1999-13235	19991022 <--

AB Condensation products of N,N'-disubstituted 3,3'-bicarbazole-6,6'-dicarboxaldehydes with active methylene compds. are **electroluminescent** and useful in LEDs and imaging devices. Thus, condensation of 0.33 mmol 9,9'-dioctyl-3,3'-bicarbazole-6,6'-dicarboxaldehyde with 0.33 mmol m-C₆H₄(CH₂CN)₂ in the presence of 0.33 mmol Bu₄NOH in a refluxing mixture of 7 mL THF and 3.5 mL MeOH under Ar for 4 h gave a copolymer (>97% yield) with Mn .apprx.40,000, Tg .apprx.100°, absorption λ_{max} 390 nm and luminescence

λ_{\max} 540 nm.IT 350479-92-4P 350686-34-9P 350686-35-0P
350686-37-2P

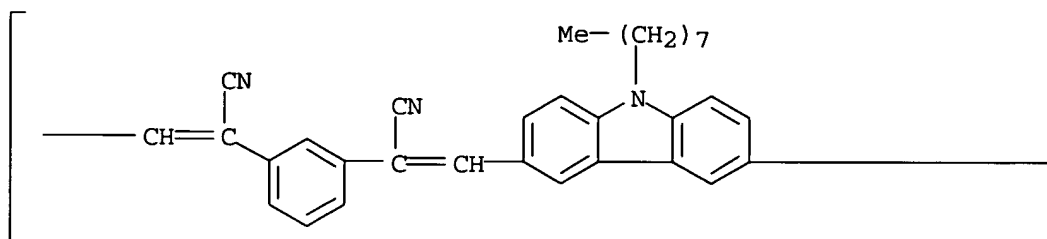
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(electroluminescent bicarbazole-based (poly)condensation products)

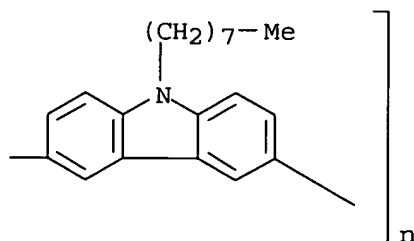
RN 350479-92-4 HCAPLUS

CN Poly[(9,9'-dioctyl[3,3'-bi-9H-carbazole]-6,6'-diyl)(2-cyano-1,2-ethenediyl)-1,3-phenylene(1-cyano-1,2-ethenediyl)] (9CI) (CA INDEX NAME)

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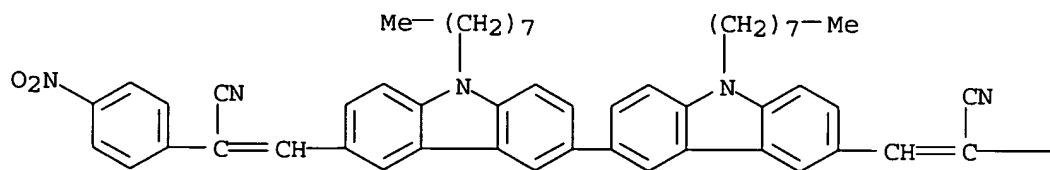
PAGE 1-B



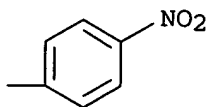
RN 350686-34-9 HCAPLUS

CN Benzeneacetonitrile, α,α' -[(9,9'-dioctyl[3,3'-bi-9H-carbazole]-6,6'-diyl)dimethyldiyl]bis[4-nitro- (9CI) (CA INDEX NAME)

PAGE 1-A

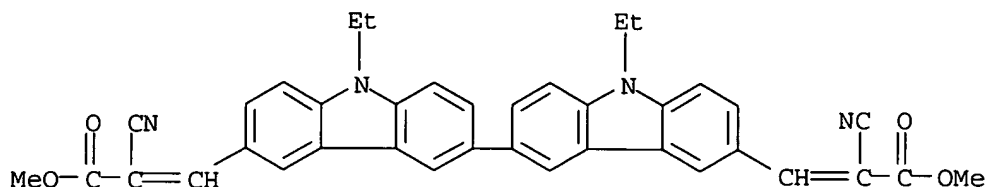


PAGE 1-B



RN 350686-35-0 HCAPLUS

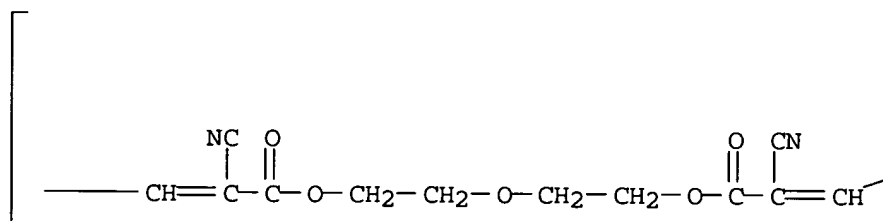
CN 2-Propenoic acid, 3,3'-(9,9'-diethyl[3,3'-bi-9H-carbazole]-6,6'-diyl)bis[2-cyano-, dimethyl ester (9CI) (CA INDEX NAME)



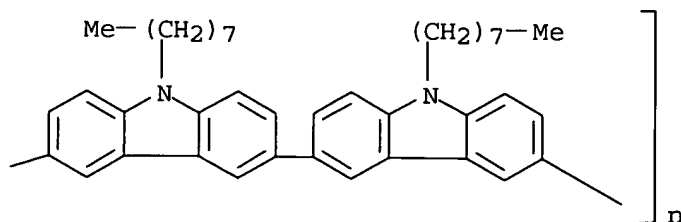
RN 350686-37-2 HCAPLUS

CN Poly[(9,9'-dioctyl[3,3'-bi-9H-carbazole]-6,6'-diyl)(2-cyano-3-oxo-1-propene-1,3-diyl)oxy-1,2-ethanediyloxy-1,2-ethanediyloxy(2-cyano-1-oxo-2-propene-1,3-diyl)] (9CI) (CA INDEX NAME)

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L54 ANSWER 36 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:376185 HCAPLUS

DOCUMENT NUMBER: 135:153192

TITLE: Synthesis and luminescent properties of blue light-emitting polymers containing high electron

affinity and hole transporting group

AUTHOR(S): Ahn, T.; Shim, H.-K.

CORPORATE SOURCE: Center for Advanced Polymers, Department of Chemistry and School of Molecular Science (BK21), Korea Advanced Institute of Science and Technology, Taejon, 305-701, S. Korea

SOURCE: Synthetic Metals (2001), 121(1-3), 1663-1664
CODEN: SYMEDZ; ISSN: 0379-6779

PUBLISHER: Elsevier Science S.A.

DOCUMENT TYPE: Journal

LANGUAGE: English

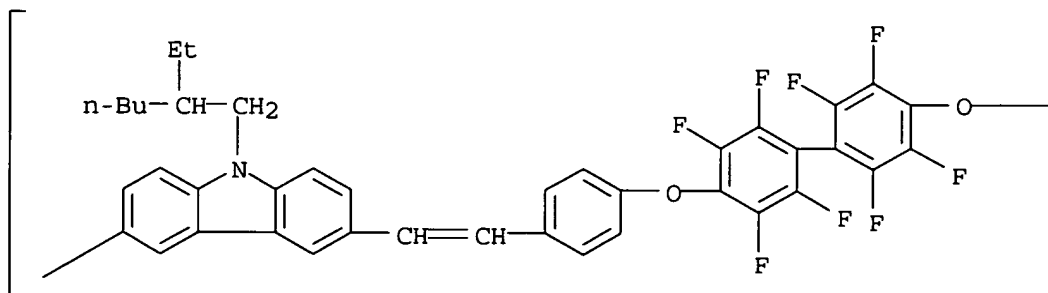
AB Poly[(oxy-4,4'-octafluorobiphenyloxy)-1,4-phenylenevinylene-alt-2-methoxy-5-(2-ethylhexyloxy)-1,4-phenylenevinylene], POFB-MEH-PPV, poly[(oxy-4,4'-octafluorobiphenyloxy)-1,4-phenylenevinylene-alt-9,9-n-dihexyl-2,7-fluorenediylvinylene], POFB-PF, and poly[(oxy-4,4'-octafluorobiphenyloxy)-1,4-phenylenevinylene-alt-N-ethylhexyl-3,6-carbazolevinylene], POFB-PK, were synthesized by Wittig condensation polymerization. The resulting conjugated polymers were highly soluble in common organic solvents such as chloroform, 1,2-dichloroethane, and cyclohexanone and exhibited good thermal stability up to 300°. The synthesized polymers showed UV-visible absorbance and photoluminescence (PL) of 350-385 nm and 460-490 nm, resp. The carbazole or fluorene containing POFB-PK and POFB-PF showed blue PL peaks at 470 and 460 nm, resp. A single-layer light-emitting diode (LED) test structure of ITO/POFB-PK/Al was used to measure **electroluminescence** (EL) maximum of POFB-PK at 460 nm corresponding to the pure blue emission.

IT 352354-15-5P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (preparation and luminescence of poly(phenylenevinylene-fluorobiphenylene)s containing fluorene and carbazole high electron affinity and hole transport groups)

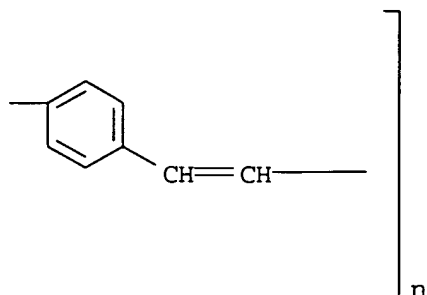
RN 352354-15-5 HCAPLUS

CN Poly[[9-(2-ethylhexyl)-9H-carbazole-3,6-diyl]-1,2-ethenediyl-1,4-phenyleneoxy(2,2',3,3',5,5',6,6'-octafluoro[1,1'-biphenyl]-4,4'-diyl)oxy-1,4-phenylene-1,2-ethenediyl] (9CI) (CA INDEX NAME)

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REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 37 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:869602 HCAPLUS

DOCUMENT NUMBER: 134:49288

TITLE: Cyclic organic compound for **electroluminescence** device material

INVENTOR(S): Maruyama, Sumio; Wada, Tatsuo; Shobu, Hiroyuki

PATENT ASSIGNEE(S): Institute of Physical and Chemical Research, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000344777	A2	20001212	JP 1999-151099	19990531 <--
PRIORITY APPLN. INFO.: GI			JP 1999-151099	19990531 <--

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The cyclic organic compound for **electroluminescence** device material has structure I (R = alkyl; n = 1,5,9,13, 17). The cyclic compound has the low ionization potential and is suitable for spin coating.

IT **245648-35-5P**

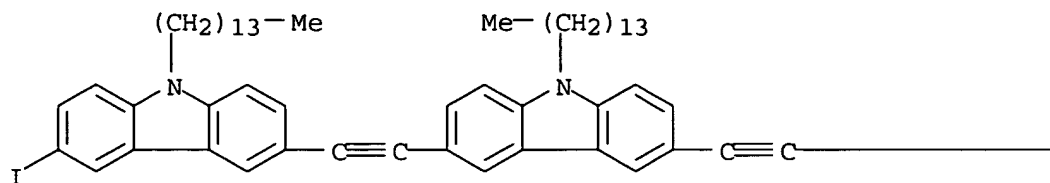
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(cyclic organic compound for **electroluminescence** device material)

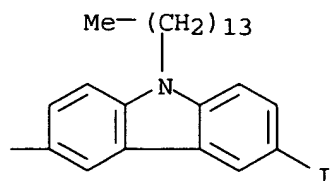
RN 245648-35-5 HCAPLUS

CN 9H-Carbazole, 3,6-bis[(6-iodo-9-tetradecyl-9H-carbazol-3-yl)ethynyl]-9-tetradecyl- (9CI) (CA INDEX NAME)

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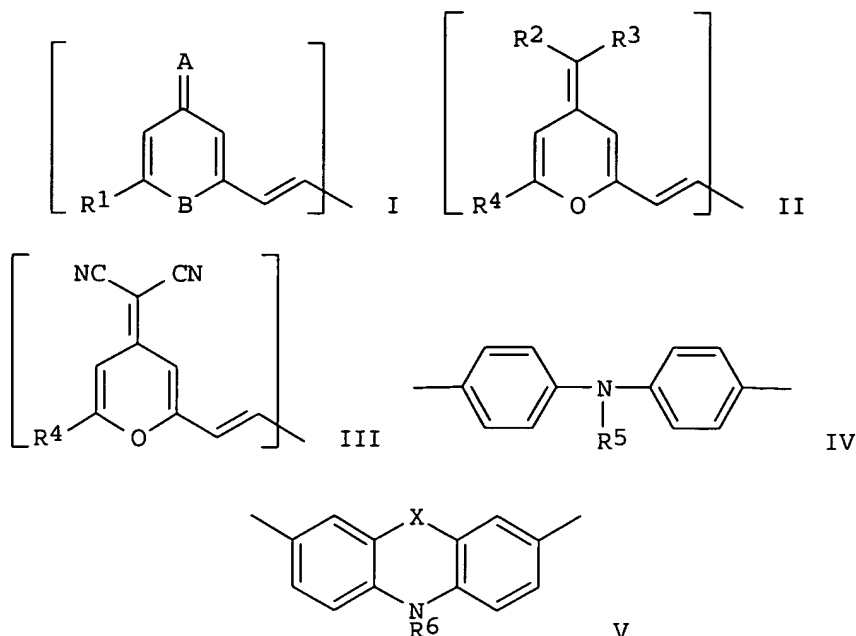


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L54 ANSWER 38 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2000:835265 HCAPLUS
 DOCUMENT NUMBER: 133:367677
 TITLE: Organic **electroluminescent** devices
 INVENTOR(S): Tamano, Michiko
 PATENT ASSIGNEE(S): Toyo Ink Mfg. Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 32 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000328052	A2	20001128	JP 1999-135498	19990517 <--
PRIORITY APPLN. INFO.: GI			JP 1999-135498	19990517 <--



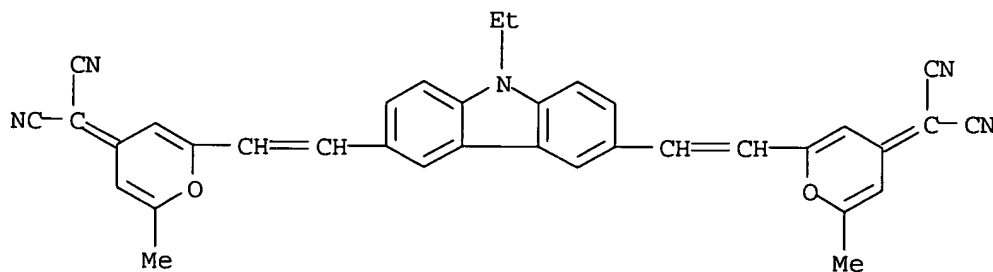
AB The devices comprise I, II, III, IV and V (R1 = H, (substituted) alkyl, (substituted) aryl; A = O, methylene; B = O, S; R2,3 = H, cyano, halo, alkylcarbonyl, alkoxy carbonyl, cannot be H simultaneously, may form a ring; R4-6 = H, (substituted) alkyl, (substituted) aryl; X = direct bonding, divalent (substituted) alkyl, divalent (substituted) aryl, O, S, (substituted) N, carbonyl, thiocarbonyl).

IT 307519-17-1 307519-18-2 307519-19-3
307519-23-9

RL: DEV (Device component use); USES (Uses)
(organic **electroluminescent** devices)

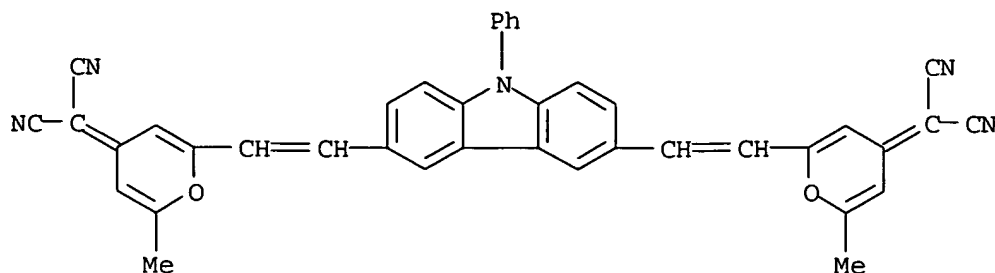
RN 307519-17-1 HCAPLUS

CN Propanedinitrile, 2,2'-[(9-ethyl-9H-carbazole-3,6-diyl)bis[2,1-ethenediyl(6-methyl-4H-pyran-2-yl-4-ylidene)]]bis- (9CI) (CA INDEX NAME)



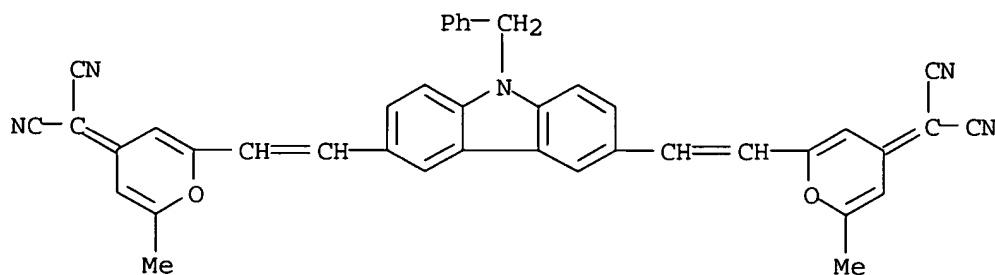
RN 307519-18-2 HCAPLUS

CN Propanedinitrile, 2,2'-[(9-phenyl-9H-carbazole-3,6-diyl)bis[2,1-ethenediyl(6-methyl-4H-pyran-2-yl-4-ylidene)]]bis- (9CI) (CA INDEX NAME)



RN 307519-19-3 HCAPLUS

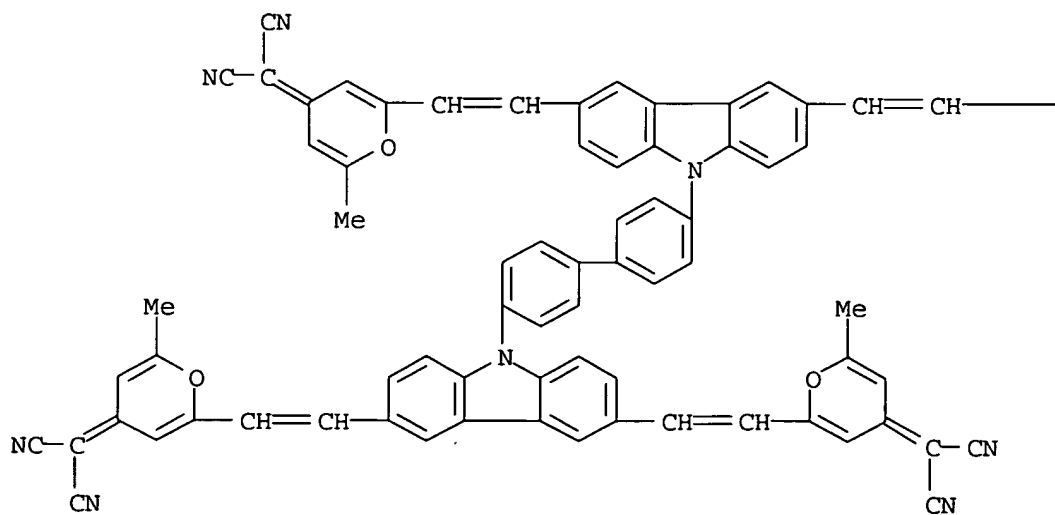
CN Propanedinitrile, 2,2'-[[9-(phenylmethyl)-9H-carbazole-3,6-diyl]bis[2,1-ethenediyl(6-methyl-4H-pyran-2-yl-4-ylidene)]]bis- (9CI) (CA INDEX NAME)



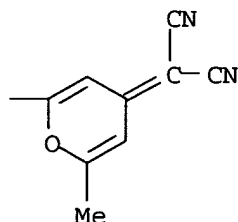
RN 307519-23-9 HCAPLUS

CN Propanedinitrile, 2,2',2'',2'''-[[1,1'-biphenyl]-4,4'-diylbis[9H-carbazole-9,3,6-triylbis[2,1-ethenediyl(6-methyl-4H-pyran-2-yl-4-ylidene)]]]tetrakis- (9CI) (CA INDEX NAME)

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L54 ANSWER 39 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:539774 HCAPLUS

DOCUMENT NUMBER: 133:120845

TITLE: Luminescent group-containing diacetylene-based polymers and their use in **electroluminescence** devices

INVENTOR(S): Kim, Chung Up; Cho, Hyung Nam; Kim, Tong Yong; Kim, Young Chul; Hon, Jae Min; Kim, Jai Kyong; Yu, Je Ung

PATENT ASSIGNEE(S): Korea Institute of Science and Technology, S. Korea; Hanfa Chemical Corp.

SOURCE: Jpn. Tokkyo Koho, 18 pp.

CODEN: JTXXFF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 3046814	B1	20000529	JP 1999-45846	19990224 <--
JP 2000212466	A2	20000802		
KR 2000050907	A	20000805	KR 1999-1056	19990115 <--
US 6344286	B1	20020205	US 1999-378126	19990819 <--
			KR 1999-1056	A 19990115 <--

PRIORITY APPLN. INFO.:

AB The polymers are made from diacetylene compds. which have groups derived from fluorene, 2,7-di(hydroxyphenylethenyl)fluorene, 2,7-di(hydroxyphenyl)fluorene, 1,4-di(hydroxyphenylethenyl)benzene, 1,4-di(hydroxyphenyl)benzene, 3,6-di(hydroxyphenylethenyl)carbazole, or their substituted analogs. **Electroluminescence** devices can be made from a blend of the polymers and other polymers. Thus, bubbling O gas to a mixture of 2,7-diethynyl-9,9-di-n-hexylfluorene 1.52, CuCl 0.10 and N,N,N',N'-tetramethylethylenediamine 1.50 g in 20 mL chlorobenzene at room temperature for 1 h, precipitating the resulting viscous product with 2.0N HCl

and

working up gave a polymer.

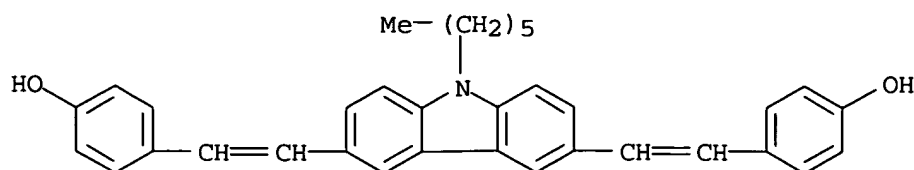
IT **285142-95-2P**

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(intermediate; luminescent group-containing diacetylene-based polymers and use in **electroluminescence** devices)

RN 285142-95-2 HCAPLUS

CN Phenol, 4,4'-[(9-hexyl-9H-carbazole-3,6-diyl)di-2,1-ethenediyl]bis- (9CI) (CA INDEX NAME)



L54 ANSWER 40 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:537894 HCAPLUS

DOCUMENT NUMBER: 133:322381

TITLE: The photoluminescent and **electroluminescent** properties of cyclic carbazole oligomers

AUTHOR(S): Maruyama, Sumio; Suzuki, Hironori; Tao, Xu-tang; Wada, Tatsuo; Sasabe, Hiroyuki; Miyata, Seizo; Kamata, Toshihide

CORPORATE SOURCE: The Institute of Physical and Chemical Research (RIKEN), Saitama, 351-0198, Japan

SOURCE: Physical Chemistry Chemical Physics (2000), 2(16), 3565-3569

CODEN: PPCPFQ; ISSN: 1463-9076

PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The emission properties of cyclic carbazole oligomers are described. The photoluminescent spectra of these cyclic oligomers excited by 350 nm as an excitation wavelength in chloroform have been measured. The emission properties of o-xylene-derived cyclic dimer were different from those of p- and/or m-xylene-derived cyclic dimers although they have the similar molar absorption coeffs. and structures. The **electroluminescent** properties are also described.

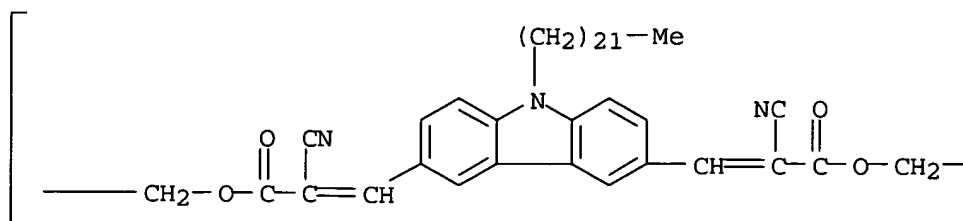
IT 221393-29-9

RL: DEV (Device component use); PRP (Properties); USES (Uses) (photoluminescent and **electroluminescent** properties of cyclic carbazole oligomers)

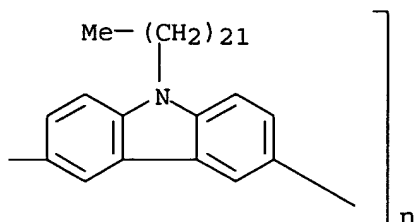
RN 221393-29-9 HCAPLUS

CN Poly[(9-docosyl-9H-carbazole-3,6-diyl)methyleneoxy(2-cyano-1-oxo-2-propene-1,3-diyl)(9-docosyl-9H-carbazole-3,6-diyl)(2-cyano-3-oxo-1-propene-1,3-diyl)oxymethylene] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 41 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:414780 HCAPLUS

DOCUMENT NUMBER: 133:322370

TITLE: Hyper-structured photonic molecules: hyperbranched polymers and oligomers

AUTHOR(S): Wada, Tatsuo; Gunji, Atsushi; Imase, Yoshihiro; Zhang, Yadong; Kimura-Suda, Hiromi; Tao, Xu Tang; Sasabe, Hiroyuki

CORPORATE SOURCE: Frontier Research Program, The Institute of Physical and Chemical Research (RIKEN), Saitama, 351-0198, Japan

SOURCE: MCLC S&T, Section B: Nonlinear Optics (1999), 22(1-4), 183-188

CODEN: MCLOEB; ISSN: 1058-7268

PUBLISHER: Gordon & Breach Science Publishers

DOCUMENT TYPE: Journal

LANGUAGE: English

AB We have developed novel multifunctional carbazole oligomers and hyperbranched polymers. Carbazole oligomers show better photorefractive performance than those of main-chain polymers and provide mol.-level tuning. In order to merge the advantages for oligomers and polymers, hyperbranched polymers with oligomer units are prepared. This new hyperbranched polymer shows red-shifted fluorescence which can be applied to multifunctional **electroluminescent** materials as a new class of hyper-structured photonic mols.

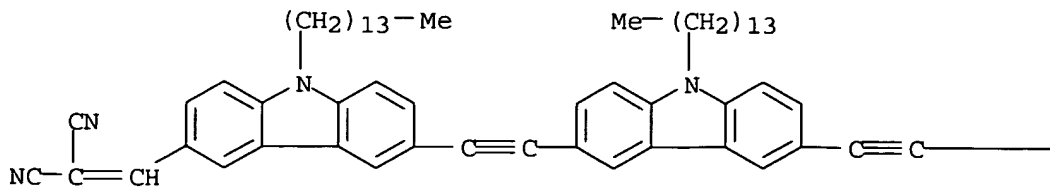
IT 181949-07-5

RL: PRP (Properties)
(hyper-structured photonic mols. of hyperbranched polymers and oligomers)

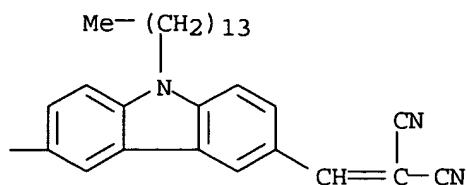
RN 181949-07-5 HCAPLUS

CN Propanedinitrile, 2,2'-[(9-tetradecyl-9H-carbazole-3,6-diyl)bis[2,1-ethynediyl(9-tetradecyl-9H-carbazole-6,3-diyl)methylidyne]]bis- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IT 174202-82-5P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(hyper-structured photonic mols. of hyperbranched polymers and
oligomers)

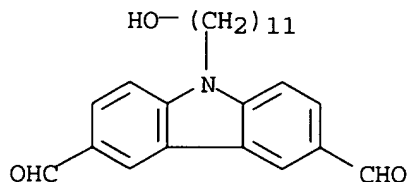
RN 174202-82-5 HCAPLUS

CN Acetic acid, cyano-, methyl ester, polymer with 9-(11-hydroxyundecyl)-9H-
carbazole-3,6-dicarboxaldehyde (9CI) (CA INDEX NAME)

CM 1

CRN 174202-80-3

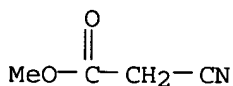
CMF C25 H31 N O3



CM 2

CRN 105-34-0

CMF C4 H5 N O2



REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 42 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:377773 HCAPLUS

DOCUMENT NUMBER: 133:151023

TITLE: Synthesis and properties of new light-emitting
polymers containing fluorinated tetraphenyl units

AUTHOR(S): Hwang, Do-Hoon; Song, Seung Yong; Ahn, Taek; Chu, Hye
Yong; Do, Lee-Mi; Kim, Seong Hyun; Shim, Hong-Ku;
Zyung, Taehyoung

CORPORATE SOURCE: Telecommunication Basic Research Laboratory, ETRI,
Taejon, 305-350, S. Korea

SOURCE: Synthetic Metals (2000), 111-112, 485-487
 CODEN: SYMEDZ; ISSN: 0379-6779
 PUBLISHER: Elsevier Science S.A.
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Fully conjugated blue light-emitting polymers based on fluorinated tetra-Ph units and dialkoxybenzene, carbazole, and fluorene arylenevinylene units were prepared. The polymers were prepared from ((4-[4-{4-[(diethoxyphosphino)methyl]phenyl}-2,3,5,6-tetrafluorophenyl]methyl) diethoxy phosphine and the corresponding dialdehyde monomers via the Horner reaction. The polymers are soluble in common organic solvents and thermally stable up to 300°. The photoluminescence (PL) peak wavelength of the polymers varied from 490 to 468 nm, depending on the polymer structure. Single-layer **electroluminescent** (EL) test device structures using the polymers were fabricated. Light emission becomes visible between 12 and 22 V, depending on the device structure.

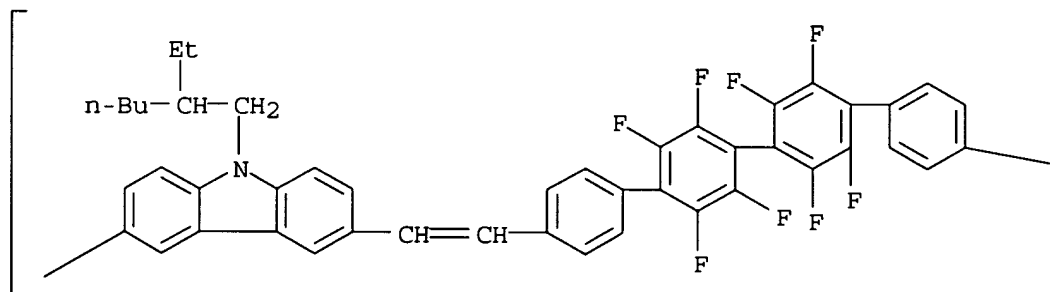
IT 287181-32-2P

RL: PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation) (preparation via Horner reaction and solubility and **electroluminescence** of fluorophenylenevinylens containing dialkoxybenzene and carbazole and fluorene units)

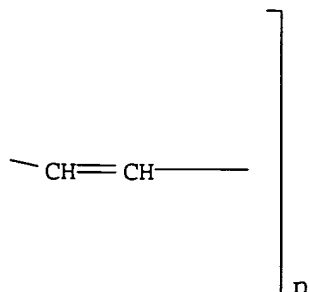
RN 287181-32-2 HCAPLUS

CN Poly[[9-(2-ethylhexyl)-9H-carbazole-3,6-diyl]-1,2-ethenediyl(2',2'',3',3'',5',5'',6',6''-octafluoro[1,1':4',1'':4'',1''':4''':4''''-quaterphenyl]-4,4''''-diyl)-1,2-ethenediyl] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 43 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:439059 HCAPLUS

DOCUMENT NUMBER: 131:229257

TITLE: Spectroscopic and electrochemical study of a novel
blue **electroluminescent** p-n diblock
conjugated copolymer

AUTHOR(S): Meng, Hong; Chen, Zhi-Kuan; Huang, Wei

CORPORATE SOURCE: Institute of Materials Research and Engineering
(IMRE), National University of Singapore, Singapore,
119260, SingaporeSOURCE: Journal of Physical Chemistry B (1999),
103(31), 6429-6433

CODEN: JPCBFK; ISSN: 1089-5647

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A novel p-n diblock copolymer, poly[N-(2'-ethylhexyl)-carbazole-3,6-diyl-1'',3'',4''-oxadiazole-2'',5''-diyl-2''',5'''-dioctyloxy-1''',4'''-phenylene-1''',3''',4'''-oxadiazole-2''',5'''-diyl] (PCOPO) composed of an electron-rich moiety carbazole and an electron-deficient unit aromatic oxadiazole was synthesized aiming at balancing the abilities of conducting holes and electrons. Electrochem. analyses by cyclic voltammetry indicate that PCOPO can be reversibly n-doped and irreversibly p-doped. The cathodic sweep reveals that the reduction involves two-electron process with respect to the successive reduction of oxadiazole rings and carbazole moieties in the polymer chain. The highest occupied MOs (HOMO) and lowest unoccupied MOs (LUMO) energy levels of the polymer are estimated to be 5.60 and 2.66 eV from the onset of oxidation and reduction potentials, resp. The band gap energy of the polymer estimated by the electrochem. measurement (2.94 eV) is in good agreement with that from the optical method (2.82 eV). The photoluminescence (PL) of film samples shows that the polymer emits greenish-blue light (475 nm). The PL of solns. is concentration-dependent. In dilute solns., the PL emission is from the singlet exciton transition, whereas in the concentrated solns., it is mainly originated from excimers. The excimer formation is related to the incorporation of oxadiazole rings into the polymer backbone, which can enhance the interchain interactions. Both photophys. and electronic properties demonstrate that the polymer may be a promising candidate material for the fabrication of an efficient blue light-emitting device.

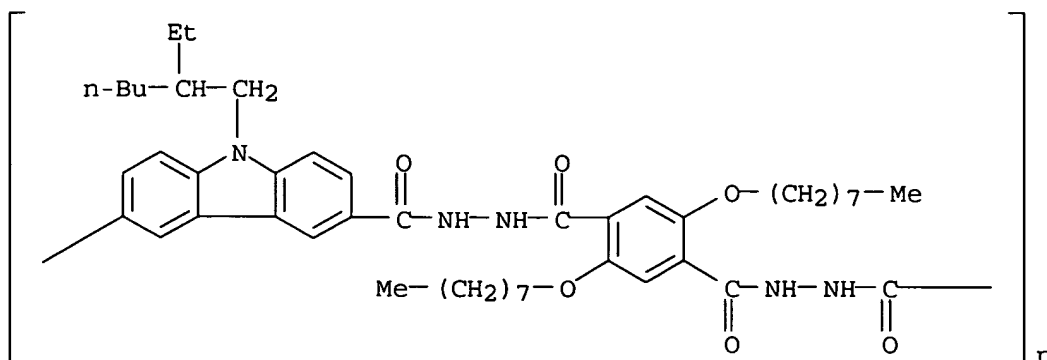
IT 244036-30-4P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(pre-polymer; spectroscopic and electrochem. study of novel blue
electroluminescent p-n conjugated copolymer)

RN 244036-30-4 HCAPLUS

CN Poly[[9-(2-ethylhexyl)-9H-carbazole-3,6-diyl]carbonylhydrazocarbonyl[2,5-bis(octyloxy)-1,4-phenylene]carbonylhydrazocarbonyl] (9CI) (CA INDEX NAME)



IT 244036-29-1P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (spectroscopic and electrochem. study of novel blue
electroluminescent p-n conjugated copolymer)

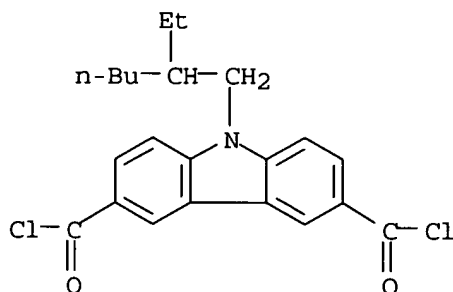
RN 244036-29-1 HCAPLUS

CN 1,4-Benzenedicarboxylic acid, 2,5-bis(octyloxy)-, dihydrazide, polymer
 with 9-(2-ethylhexyl)-9H-carbazole-3,6-dicarbonyl dichloride (9CI) (CA
 INDEX NAME)

CM 1

CRN 229626-80-6

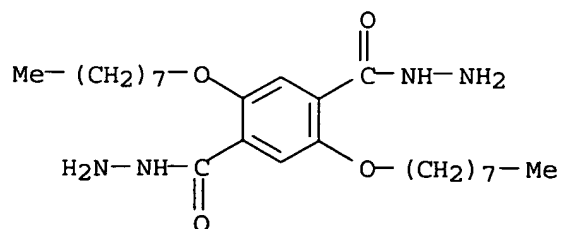
CMF C22 H23 C12 N O2



CM 2

CRN 215324-12-2

CMF C24 H42 N4 O4



REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 44 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:394317 HCAPLUS

DOCUMENT NUMBER: 131:243697

TITLE: Synthesis and characterization of a novel blue **electroluminescent** polymer constituted of alternating carbazole and aromatic oxadiazole units

AUTHOR(S): Meng, Hong; Chen, Zhi-Kuan; Liu, Xiao-Ling; Lai, Yee-Hing; Chua, Soo-Jin; Huang, Wei

CORPORATE SOURCE: Institute of Materials Research and Engineering (IMRE), National University of Singapore, Singapore

SOURCE: Physical Chemistry Chemical Physics (1999), 1(13), 3123-3127

CODEN: PPCPFQ; ISSN: 1463-9076

PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A polymer containing alternating carbazole and arylenebisoxadiazole units was prepared by polymerizing 2,5-bis(octyloxy)terephthaloyl hydrazide with 9-(2-ethylhexyl)-3,6-carbazoledicarbonyl chloride followed by cyclodehydration. The structure of the polymer was confirmed by FTIR, NMR, and elemental anal. The polymer is partially soluble in THF, CHCl₃, xylene, and DMSO, and completely soluble in CHCl₃ containing a small amount

TFA. The optical and electronic properties of the polymer were investigated by UV-visible absorption and photoluminescence spectroscopy as well as cyclic voltammetry. The polymer films emit greenish-blue light (475 nm). The bandgap energy of the polymer was estimated optically (2.82 eV) and electrochem. (2.94 eV). Both p-doping and n-doping processes are observed in cyclic voltammetric investigations. The HOMO and LUMO energies of the polymer were estimated to be 5.60 and 2.66 eV, resp. The photophys. and electronic properties as well as the preliminary **electroluminescent** device result of the polymer demonstrate that it is a promising candidate material for the fabrication of a polymer light-emitting device.

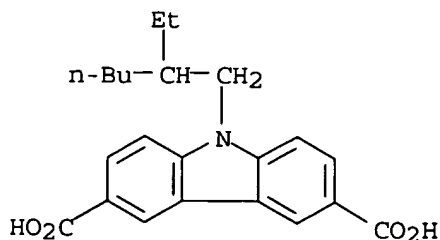
IT 229626-79-3P, N-(2-Ethylhexyl)-3,6-carbazoledicarboxylic acid

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(intermediate; in preparation of (ethylhexyl)carbazoledicarbonyl chloride)

RN 229626-79-3 HCAPLUS

CN 9H-Carbazole-3,6-dicarboxylic acid, 9-(2-ethylhexyl)- (9CI) (CA INDEX NAME)



IT 244036-29-1P, 2,5-Bis(octyloxy)terephthaloyl hydrazide-N-(2-

ethylhexyl)-3,6-carbazoledicarbonyl chloride copolymer

244036-30-4P, 2,5-Bis(octyloxy)terephthaloyl hydrazide-N-(2-ethylhexyl)-3,6-carbazoledicarbonyl chloride copolymer sru

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and cyclodehydration of)

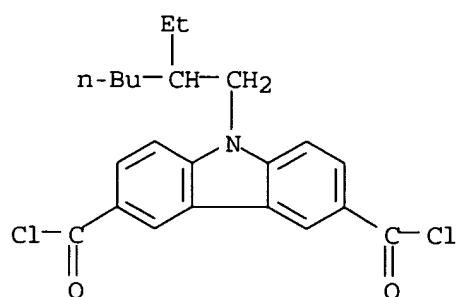
RN 244036-29-1 HCAPLUS

CN 1,4-Benzenedicarboxylic acid, 2,5-bis(octyloxy)-, dihydrazide, polymer with 9-(2-ethylhexyl)-9H-carbazole-3,6-dicarbonyl dichloride (9CI) (CA INDEX NAME)

CM 1

CRN 229626-80-6

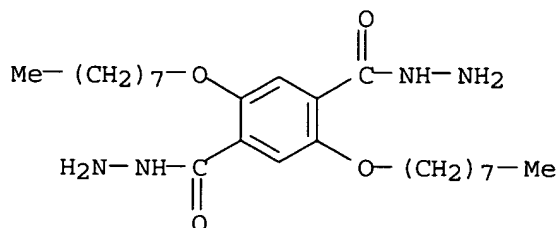
CMF C22 H23 Cl2 N O2



CM 2

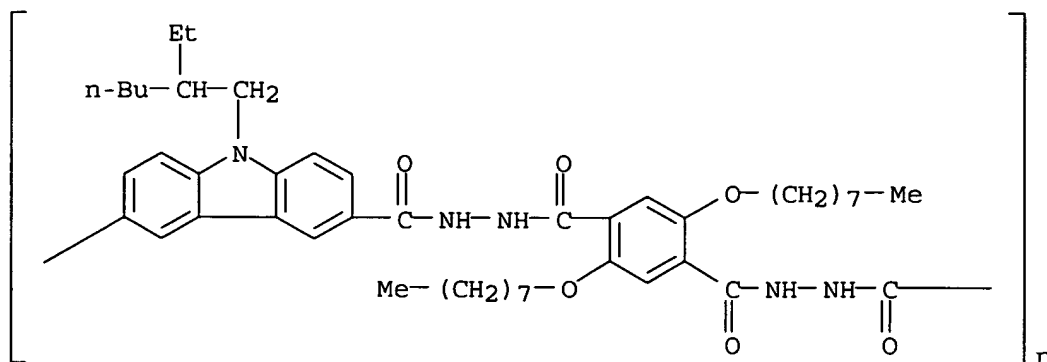
CRN 215324-12-2

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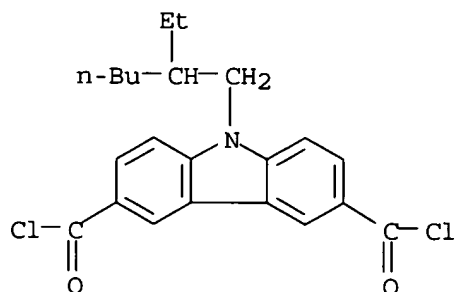


RN 244036-30-4 HCAPLUS

CN Poly[[9-(2-ethylhexyl)-9H-carbazole-3,6-diyl]carbonylhydrazocarbonyl[2,5-bis(octyloxy)-1,4-phenylene]carbonylhydrazocarbonyl] (9CI) (CA INDEX NAME)



IT **229626-80-6P**, N-(2-Ethylhexyl)-3,6-carbazoledicarbonyl chloride
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (preparation and polymerization with bis(octyloxy)terephthaloyl hydrazide)
 RN 229626-80-6 HCAPLUS
 CN 9H-Carbazole-3,6-dicarbonyl dichloride, 9-(2-ethylhexyl)- (9CI) (CA INDEX
 NAME)

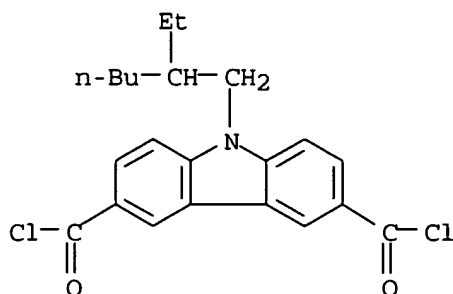


IT **244036-29-1DP**, cyclodehydrated
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (preparation and properties of)
 RN 244036-29-1 HCAPLUS
 CN 1,4-Benzenedicarboxylic acid, 2,5-bis(octyloxy)-, dihydrazide, polymer
 with 9-(2-ethylhexyl)-9H-carbazole-3,6-dicarbonyl dichloride (9CI) (CA
 INDEX NAME)

CM 1

CRN 229626-80-6

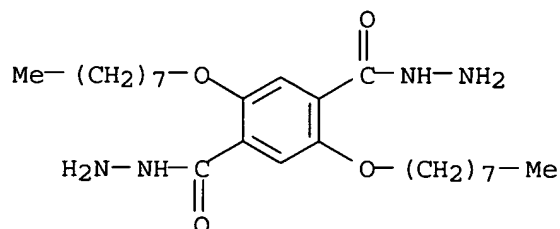
CMF C22 H23 C12 N O2



CM 2

CRN 215324-12-2

CMF C24 H42 N4 O4



REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 45 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:377083 HCAPLUS

DOCUMENT NUMBER: 131:158056

TITLE: A Soluble Green-Light-Emitting Alternating Copolymer with Acceptor-Substituted Bicarbazyl Units

AUTHOR(S): Boucard, V.; Ades, D.; Siove, A.; Romero, D.; Schaer, M.; Zuppiroli, L.

CORPORATE SOURCE: Laboratory of Macromolecular Research (CNRS), Galilee Institute University of Paris-Nord, Villetaneuse, 93430, Fr.

SOURCE: Macromolecules (1999), 32(14), 4729-4731

CODEN: MAMOBX; ISSN: 0024-9297

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Poly[bicarbazolylene-alt-phenylenebis(cyanovinylene)] (I) was prepared by Knoevenagel condensation between N,N'-dioctyl-3,3'-bicarbazyl-6,6'-dialdehyde and cyanoterephthalylidene. The **electroluminescence** feature of LEDs based on I as an emissive layer were described and compared with those of bicarbazyl taken as model compound I showed an internal charge transfer between the electron-donor carbazole subunits and the electron-acceptor cyanovinylene moieties which allowed to shift the luminescence from blue to green.

IT 193017-45-7P

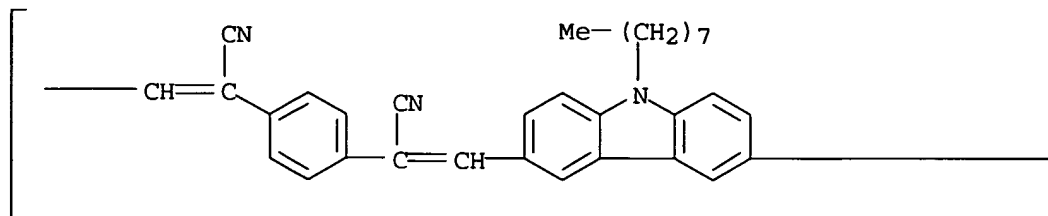
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(preparation and **electroluminescence** properties of
cyanoterephthalylidene-dioctylbicarbazylaldehyde copolymer)

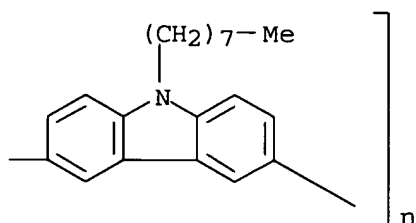
RN 193017-45-7 HCAPLUS

CN Poly[(9,9'-dioctyl[3,3'-bi-9H-carbazole]-6,6'-diyl)(2-cyano-1,2-ethenediyl)-1,4-phenylene(1-cyano-1,2-ethenediyl)] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 46 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:237533 HCAPLUS

DOCUMENT NUMBER: 130:344495

TITLE: Organic light emitting diodes based on bicarbazyl's
AUTHOR(S): Bacsa, W. S.; Schaer, M.; Ades, D.; Siove, A.;
Zuppiroli, L.

CORPORATE SOURCE: Department of Physics, IGA, EPFL, Lausanne, CH-1015,
Switz.

SOURCE: Proceedings of SPIE-The International Society for
Optical Engineering (1998), 3476(Organic
Light-Emitting Materials and Devices II), 295-303
CODEN: PSISDG; ISSN: 0277-786X

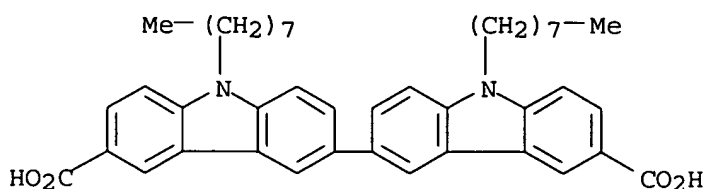
PUBLISHER: SPIE-The International Society for Optical Engineering

DOCUMENT TYPE: Journal

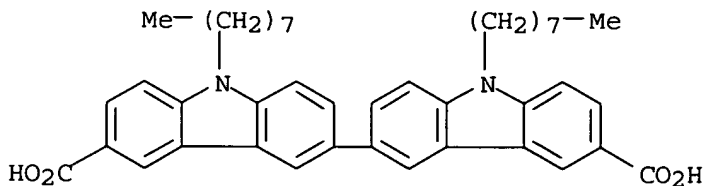
LANGUAGE: English

AB Bicarbazyl's are stable and small organic mols. with external quantum yields of 0.1% in single layer devices. Devices from N,N'-diethyl-3,3'-bicarbazyl, (EtCz)₂ emit in the violet-blue spectral region (420 nm). Multilayer configurations with transport layers show a significant higher brightness and quantum efficiency (0.4%) and addition of N,N'-dioctyl-3,3'-bicarbazyl-6,6'-dicarboxylic acid, (OcCz COOH)₂, improves the device stability. The current voltage characteristics of (EtCz)₂ is well described by the authors' recent microscopic model for space charge limited currents in an assembly of conjugated polymer segments. Although the applicability of the polaron concept to small mols. is somewhat questionable, the excellent results obtained with the model reveal the

importance of mol. relaxation processes during the jump of the carrier.
 IT 220160-67-8 220160-67-8D, solid solns. with
 N,N'-diethyl-3,3'-bicarbazole
 RL: DEV (Device component use); PRP (Properties); USES (Uses)
 (organic light emitting diodes based on bicarbazyle)
 RN 220160-67-8 HCAPLUS
 CN [3,3'-Bi-9H-carbazole]-6,6'-dicarboxylic acid, 9,9'-dioctyl- (9CI) (CA
 INDEX NAME)



RN 220160-67-8 HCAPLUS
 CN [3,3'-Bi-9H-carbazole]-6,6'-dicarboxylic acid, 9,9'-dioctyl- (9CI) (CA
 INDEX NAME)



REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 47 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:204979 HCAPLUS

DOCUMENT NUMBER: 131:65576

TITLE: **Electroluminescent** applications of a cyclic
 carbazole oligomer

AUTHOR(S): Maruyama, Sumio; Tao, Xu-tang; Hokari, Hirofumi; Noh,
 Taeyong; Zhang, Yadong; Wada, Tatsuo; Suzuki,
 Hironori; Watanabe, Toshiyuki; Miyata, Seizo

CORPORATE SOURCE: Laboratory for Biopolymer Physics, The Institute of
 Physical and Chemical Research (RIKEN), Wako, Saitama,
 351-0198, Japan

SOURCE: Journal of Materials Chemistry (1999), 9(4),
 893-898

CODEN: JMACEP; ISSN: 0959-9428

PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A cyclic carbazole oligomer for organic light-emitting diodes is described.
 This cyclic oligomer has a high glass transition temperature (105°), and
 high quality amorphous film can be prepared by the conventional spin-coating
 technique. The authors examined the characteristics of this cyclic oligomer
 for electron transport layer applications. The device structure of In Sn
 oxide/hole transport layer/electron transport layer/Al was used. The EL

device exhibited green light with a luminance of 60 cd m⁻² at 15 V and the external quantum efficiency was 0.44%.

IT **213387-17-8P**

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(**electroluminescent** applications of a cyclic carbazole oligomer)

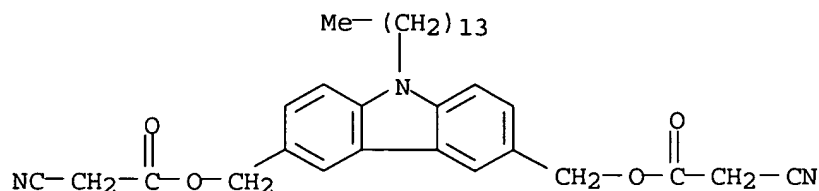
RN 213387-17-8 HCAPLUS

CN Acetic acid, cyano-, (9-tetradecyl-9H-carbazole-3,6-diyl)bis(methylene) ester, polymer with 9-tetradecyl-9H-carbazole-3,6-dicarboxaldehyde (9CI) (CA INDEX NAME)

CM 1

CRN 213387-16-7

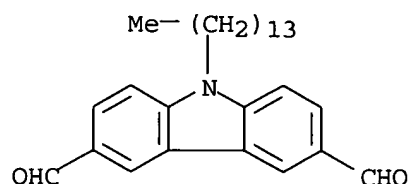
CMF C34 H43 N3 O4



CM 2

CRN 183275-89-0

CMF C28 H37 N O2



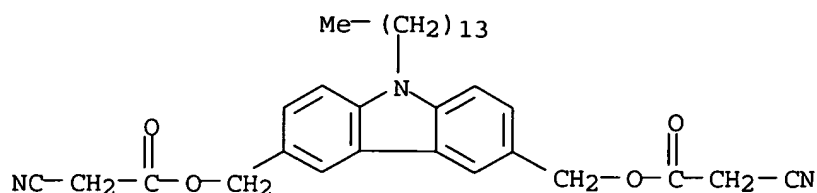
IT **213387-16-7P 227798-24-5P**

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(**electroluminescent** applications of a cyclic carbazole oligomer)

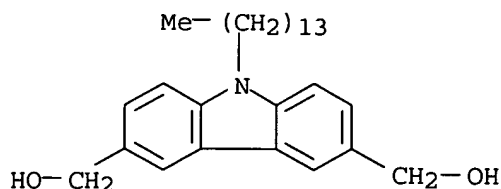
RN 213387-16-7 HCAPLUS

CN Acetic acid, cyano-, (9-tetradecyl-9H-carbazole-3,6-diyl)bis(methylene) ester (9CI) (CA INDEX NAME)



RN 227798-24-5 HCAPLUS

CN 9H-Carbazole-3,6-dimethanol, 9-tetradecyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 48 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:113901 HCAPLUS

DOCUMENT NUMBER: 130:160352

TITLE: **Electroluminescent** device

INVENTOR(S): Nuesch, Frank Alain; Rotzinger, Francois; Si-Ahmed, Lynda; Zuppiroli, Libero

PATENT ASSIGNEE(S): Ecole Polytechnique Federale de Lausanne, Switz.

SOURCE: PCT Int. Appl., 57 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: French

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9907028	A1	19990211	WO 1998-CH324	19980731 <--
W: JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 1012892	A1	20000628	EP 1998-934728	19980731 <--
R: CH, DE, FR, GB, LI, NL				
JP 2001512145	T2	20010821	JP 2000-505659	19980731 <--
US 6569544	B1	20030527	US 2000-463880	20000131 <--
PRIORITY APPLN. INFO.:			CH 1997-1844	A 19970731 <--
			WO 1998-CH324	W 19980731 <--

OTHER SOURCE(S): MARPAT 130:160352

AB The invention concerns a **electroluminescent** device with a multilayer structure comprising: (i) a 1st electrode including a layer, consisting of a transparent or translucent conductive material selected among metal oxides and metal nitrides, said layer being deposited on a transparent support, consisting of a glass, Si, alumina plate, or a polymer sheet; (ii) a 2nd electrode; (iii) a layer, arranged between the 2

electrodes, comprising a semiconductor and **electroluminescent** solid organic substance, said layer being optionally bordered with 1 or several intermediate layers, consisting of electrocatalysts; and (iv) a layer with monomol. structure, arranged between the layer consisting of the conductive material and the layer consisting of the **electroluminescent** substance. Said device is further characterized in that said layer consists of a dipolar organic compound whereof the structure has an electronic system π , a functional group, vicinal or not of the electronic system π . Also, the dipolar organic compound is chemical bound by the functional group to the conductive material and has chemical affinity for the organic **electroluminescent** substance.

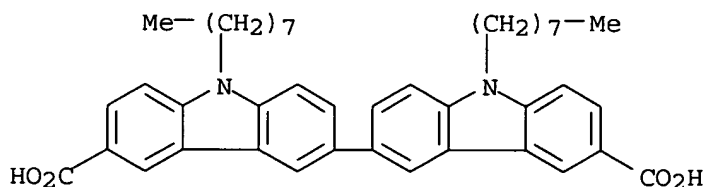
IT 220160-67-8

RL: DEV (Device component use); USES (Uses)

(**electroluminescent** device with multilayer structure and ruthenium organic complex, organic derivs., and hydroxyquinoline aluminum)

RN 220160-67-8 HCAPLUS

CN [3,3'-Bi-9H-carbazole]-6,6'-dicarboxylic acid, 9,9'-dioctyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 49 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:698294 HCAPLUS

DOCUMENT NUMBER: 130:58597

TITLE: Blue organic light emitting diodes based on bicarbazyle derivates: Device stability and multilayer configuration

AUTHOR(S): Bacsa, W. S.; Schaer, M.; Zuppiroli, L.; Ades, D.; Siove, A.

CORPORATE SOURCE: Department of Physics, EPFL, IGA, Lausanne, CH-1015, Switz.

SOURCE: Journal of Applied Physics (1998), 84(10), 5733-5738

CODEN: JAPIAU; ISSN: 0021-8979

PUBLISHER: American Institute of Physics

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The device stabilities of blue light emitting diodes based on N,N'-diethyl-3,3'-bicarbazyle, (EtCz)₂, were substantially improved by coevaporation with N,N'-diethyl-3,3'-bicarbazyle-6,6' dicarboxylic acid, (OcCzCOOH)₂. We attribute this effect to the formation of a network of hydrogen bonds in the alloy related to the presence of carboxyl groups. A three layer device with transport layers for both electrons and holes improves the quantum efficiency: with an Al cathode we obtain a luminance of 100 cd/m² at c.d. levels of 50 mA/cm². We find that the current-voltage characteristics of (EtCz)₂ are well described by our recent microscopic model for space charge limited currents in an assembly of conjugated polymer segments. The incorporation of an electron

transport layer splits and shifts the **electroluminescent** band to lower energies and we observe a significant addnl. downshift after a period of three weeks which we attributed to mol. diffusion at the interface between the emitting and electron transport layers.

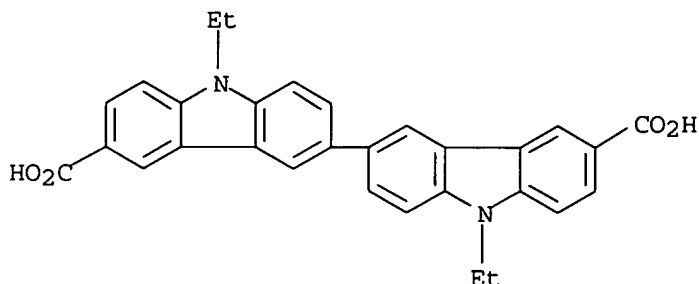
IT **57102-88-2**

RL: DEV (Device component use); MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)

(device stability of bicarbazyle based blue organic light emitting diodes increased using)

RN 57102-88-2 HCAPLUS

CN [3,3'-Bi-9H-carbazole]-6,6'-dicarboxylic acid, 9,9'-diethyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 50 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:544553 HCAPLUS

DOCUMENT NUMBER: 129:267623

TITLE: A cyclic carbazole oligomer for **electroluminescence** applications

AUTHOR(S): Maruyama, Sumio; Tao, Xu-Tang; Hokari, Hirofumi; Noh, Taeyong; Zhang, Yadong; Wada, Tatsuo; Sasabe, Hiroyuki; Suzuki, Hironori; Watanabe, Toshiyuki; Miyata, Seizo

CORPORATE SOURCE: The Institute of Physical and Chemical Research (RIKEN), Saitama, 351-0198, Japan

SOURCE: Chemistry Letters (1998), (8), 749-750
CODEN: CMLTAG; ISSN: 0366-7022

PUBLISHER: Chemical Society of Japan

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A novel cyclic carbazole oligomer, which contains the EL chromophore in the main-chain, for organic light-emitting diodes is described. The device structure of glass substrate/In Sn oxide/hole transport layer/cyclic oligomer (electron transport layer)/Al was employed. The EL device exhibited green light with a luminance of 60 cd/m² at 15 V.

IT **213387-17-8P**

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(A cyclic carbazole oligomer for **electroluminescence** applications)

RN 213387-17-8 HCAPLUS

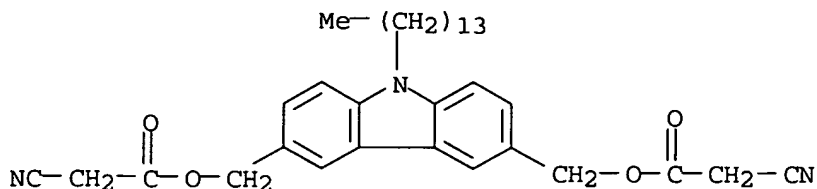
CN Acetic acid, cyano-, (9-tetradecyl-9H-carbazole-3,6-diyl)bis(methylene) ester, polymer with 9-tetradecyl-9H-carbazole-3,6-dicarboxaldehyde (9CI)

(CA INDEX NAME)

CM 1

CRN 213387-16-7

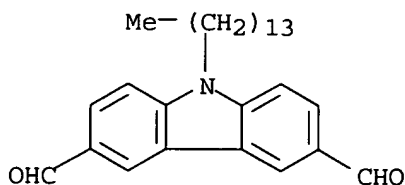
CMF C34 H43 N3 O4



CM 2

CRN 183275-89-0

CMF C28 H37 N O2



REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 51 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:531968 HCAPLUS

DOCUMENT NUMBER: 129:260970

TITLE: Multifunctional hyperbranched carbazole polymers

AUTHOR(S): Wada, Tatsuo; Zhang, Yadong; Tao, Xu-Tang; Sasabe, Hiroyuki

CORPORATE SOURCE: Frontier Res. Program, The Inst. Physical & Chemical Res. (RIKEN), Wako, Saitama, 351-0198, Japan

SOURCE: Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (1998), 39(2), 985-986
CODEN: ACPPAY; ISSN: 0032-3934

PUBLISHER: American Chemical Society, Division of Polymer Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A hyperbranched carbazole polymer was prepared from 3,6-diiformyl-9-(11-hydroxyundecyl)carbazole and Me cyanoacetate. The polymer had second harmonic coefficient 7 pm/V3 and exhibited **electroluminescent** properties.

IT 174202-82-5P

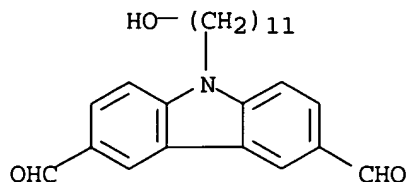
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (hyperbranched; preparation and optical properties of hyperbranched carbazole polymers)

RN 174202-82-5 HCAPLUS

CN Acetic acid, cyano-, methyl ester, polymer with 9-(11-hydroxyundecyl)-9H-carbazole-3,6-dicarboxaldehyde (9CI) (CA INDEX NAME)

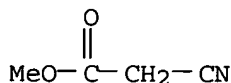
CM 1

CRN 174202-80-3
CMF C25 H31 N O3



CM 2

CRN 105-34-0
CMF C4 H5 N O2



REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 52 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:116629 HCAPLUS

DOCUMENT NUMBER: 128:146919

TITLE: Hyperbranched polymers for **electroluminescence** applications

AUTHOR(S): Tao, Xu Tang; Zhang, Ya Dong; Wada, Tatuso; Sasabe, Hiroyuki; Suzuki, Hironori; Watanabe, Toshiyuki; Miyata, Seizo

CORPORATE SOURCE: Biopolymer Physics Laboratory, Institute Physical Chemical Research, Wako, 351, Japan

SOURCE: Advanced Materials (Weinheim, Germany) (1998), 10(3), 226-230

CODEN: ADVMEW; ISSN: 0935-9648

PUBLISHER: Wiley-VCH Verlag GmbH

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Results on using hyperbranched polycarbazole (HBPC) as an electron-transfer layer (ETL) and a main-chain polymer of poly(9-tetradecanyl-3,6-(dibutadiynyl)carbazole) (PTD-BC) as a hole-transfer layer (HTL) for double-layer LEDs are described. The determined ionization potentials for HBPC (5.9 eV) and PTD-BC (5.4 eV) and the electron affinities of 3.4 and 2.4 showed that the substances can be used as ETL and HTL. High-quality films were prepared by spin coating. LEDs were successfully fabricated using the novel emitter material.

IT 176049-29-9, 9H-Carbazole-3,6-dicarboxaldehyde, 9-(11-hydroxyundecyl)-, Acetic acid, cyano-, copolymer
RL: DEV (Device component use); PRP (Properties); USES (Uses)

(dendritic; spectral and elec. characterization of hyperbranched polycarbazoles for **electroluminescence** applications)

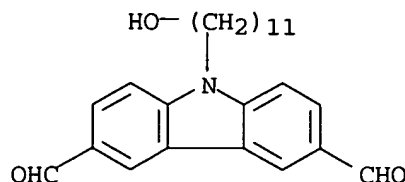
RN 176049-29-9 HCAPLUS

CN Acetic acid, cyano-, polymer with 9-(11-hydroxyundecyl)-9H-carbazole-3,6-dicarboxaldehyde (9CI) (CA INDEX NAME)

CM 1

CRN 174202-80-3

CMF C25 H31 N O3



CM 2

CRN 372-09-8

CMF C3 H3 N O2

NC-CH₂-CO₂H

L54 ANSWER 53 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:776657 HCAPLUS

DOCUMENT NUMBER: 128:55147

TITLE: **Electroluminescence** from carbazole dimers

AUTHOR(S): Romero, Danilo B.; Nueesch, Frank; Benazzi, Tayeb; Ades, Didier; Siove, Alain; Zuppiroli, Libero

CORPORATE SOURCE: Physics Dep., Inst. Genie Atomique, Swiss Federal Inst. Technology, Lausanne, CH-1015, Switz.

SOURCE: Advanced Materials (Weinheim, Germany) (1997), 9(15), 1158-1161

CODEN: ADVMEW; ISSN: 0935-9648

PUBLISHER: Wiley-VCH Verlag GmbH

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Blue light emission from a single layer organic LED based on carbazole dimers is reported. The device fabrication including vacuum sublimation of the dimer onto an ITO-covered glass substrate is described and the source of the **electroluminescence** excitations and a balanced double-charge injection result in a device with good luminance and modest external quantum efficiencies. One mol. consist of the carbazole with an Et side-group attached at the N site, the other contains an octyl side-group and addnl. carboxylic acid end-groups. The device display a narrow **electroluminescence** band peaking below $\lambda \approx 420$ nm and has a modest external quantum efficiency of 0.07%.

IT 199921-31-8

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)

(**electroluminescence**, luminescence, and UV spectra, and elec.

characteristics of LEDs containing)

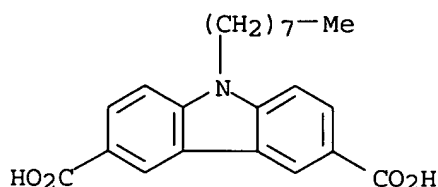
RN 199921-31-8 HCAPLUS

CN 9H-Carbazole-3,6-dicarboxylic acid, 9-octyl-, dimer (9CI) (CA INDEX NAME)

CM 1

CRN 145145-01-3

CMF C22 H25 N O4



L54 ANSWER 54 OF 54 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1993:70270 HCAPLUS

DOCUMENT NUMBER: 118:70270

TITLE: **Electroluminescent** device containing aromatic compound

INVENTOR(S): Takahashi, Toshihiko; Ota, Masabumi; Onuma, Teruyuki; Kawamura, Fumio; Sakon, Hirota

PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

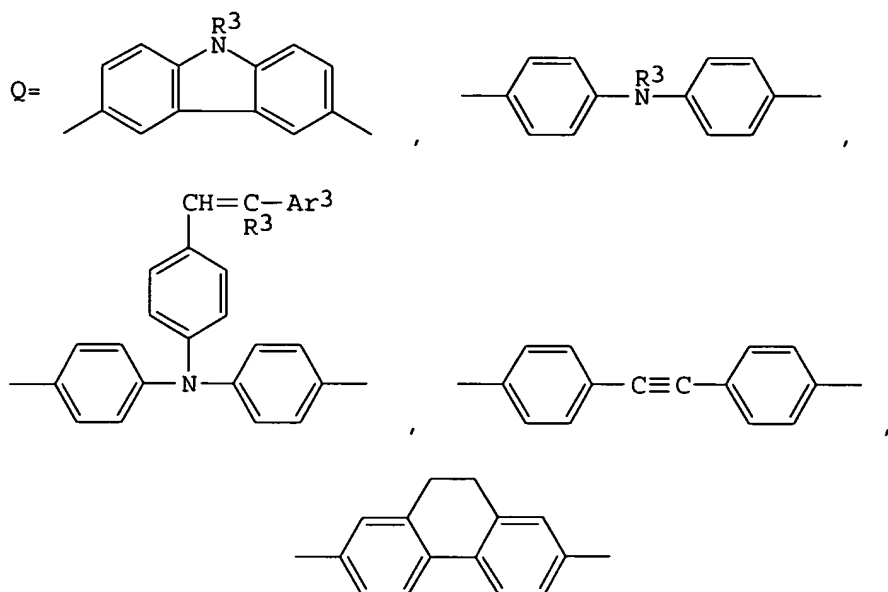
DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04184892	A2	19920701	JP 1990-314840	19901120 <--
JP 2913116	B2	19990628		
PRIORITY APPLN. INFO.:			JP 1990-314840	19901120 <--
GI				

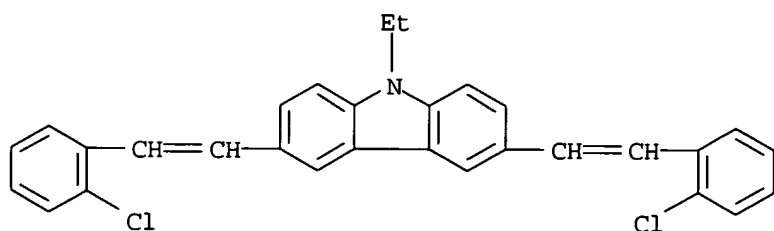


AB Th title devices comprises ≥ 1 layer containing an organic compound
 $\text{Ar1R1C:CHXCH:CR2Ar2}$ [X = Q; Ar1-3 = (substituted) carbocyclic aromatic ring
 and/or (substituted) heterocyclic aromatic ring; R1-3 = H, (substituted)
 alkyl, (substituted) carbocyclic aromatic ring, (substituted) heterocyclic
 aromatic ring] sandwiched between an anode and a cathode.

IT **145588-02-9 145588-04-1**
 RL: USES (Uses)
 (field-effect **electroluminescent** substance)

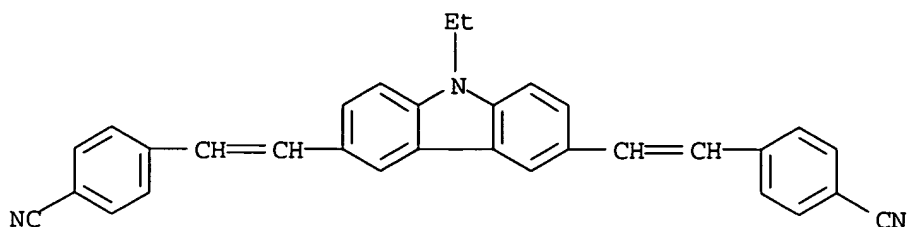
RN 145588-02-9 HCAPLUS

CN 9H-Carbazole, 3,6-bis[2-(2-chlorophenyl)ethenyl]-9-ethyl- (9CI) (CA INDEX NAME)



RN 145588-04-1 HCAPLUS

CN Benzonitrile, 4,4'-[(9-ethyl-9H-carbazole-3,6-diyl)di-2,1-ethenediyl]bis-
 (9CI) (CA INDEX NAME)



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L77 ANSWER 1 OF 6 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:160269 HCAPLUS

DOCUMENT NUMBER: 142:249032

TITLE: Negative-working photosensitive resin composition and negative-working photosensitive element

INVENTOR(S): Yamada, Naotake

PATENT ASSIGNEE(S): Hitachi Chemical Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005049806	A2	20050224	JP 2003-319758	20030911
PRIORITY APPLN. INFO.:			JP 2003-275929	A 20030717

AB Disclosed is the neg.-working photosensitive resin composition comprising (a) a (meth)acrylic alkali-soluble resin prepared by copolymn. of ≥ 1 maleimide monomers, (b) a reactive monomer, and (c) a photopolymn. initiator. The composition is used for a cathode separator of an organic **electroluminescent** device.

IT **6143-80-2**, 2-(o-Chlorophenyl)-4,5-diphenylimidazole dimer
 RL: CAT (Catalyst use); USES (Uses)
 (photopolymn. initiator; neg.-working photosensitive resin composition)

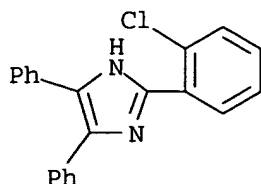
RN 6143-80-2 HCAPLUS

CN 1H-Imidazole, 2-(2-chlorophenyl)-4,5-diphenyl-, dimer (9CI) (CA INDEX NAME)

CM 1

CRN 1707-67-1

CMF C21 H15 Cl N2



L77 ANSWER 2 OF 6 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:869668 HCAPLUS

DOCUMENT NUMBER: 134:49128

TITLE: Silver halide color photography photosensitive materials and color toners and organic **electroluminescent** elements and inks and thermosensitive recording materials and optical recording materials and color filters and squarylium compounds

INVENTOR(S): Honda, Mari; Tanaka, Mari; Nakayama, Yoriko; Kita, Hiroshi

PATENT ASSIGNEE(S): Konica Co., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 40 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	---	-----	-----	-----
JP 2000345059	A2	20001212	JP 1999-158094	19990604
PRIORITY APPLN. INFO.:			JP 1999-158094	19990604
OTHER SOURCE(S):	MARPAT	134:49128		
GI				

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

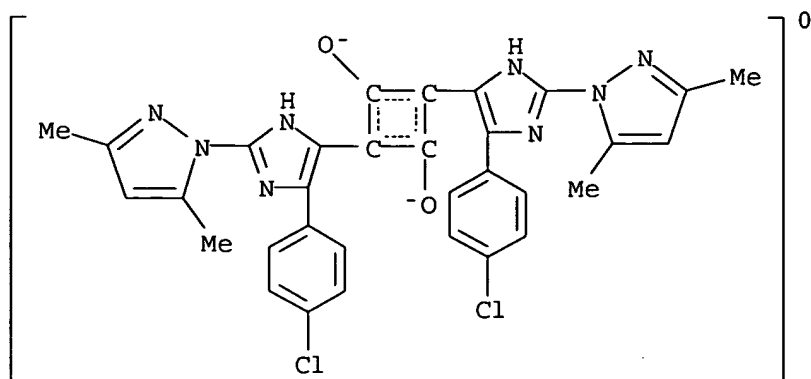
AB Compds. such as I, II, III are prepared Thus, I was prepared from 6-(1,1-dimethylethyl)-3-pyrazinyl-1H-pyrazolo[5,1-c]-1,2,4-triazole and 3,4-dihydroxy-3-cyclobutene-1,2-dione.

IT **313256-14-3**

RL: TEM (Technical or engineered material use); USES (Uses)
(silver halide color photog. photosensitive materials and color toners and organic **electroluminescent** elements and inks and thermosensitive recording materials and optical recording materials and color filters and squarylium compds.)

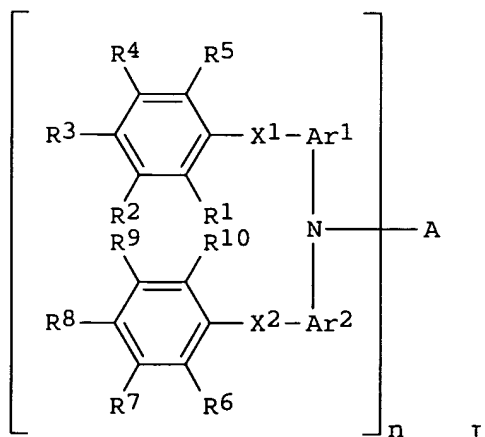
RN 313256-14-3 HCAPLUS

CN Cyclobutenediylum, 1,3-bis[5-(4-chlorophenyl)-2-(3,5-dimethyl-1H-pyrazol-1-yl)-1H-imidazol-4-yl]-2,4-dihydroxy-, bis(inner salt) (9CI) (CA INDEX NAME)



PATENT INFORMATION:

GI



AB The title material comprises an aromatic amine compound described by the general formula I [n = 3-15; A = group containing (un)substituted (condensed) aromatic or heterocyclic aromatic group; A ≠ Q; Ar1-2 = (un)substituted (condensed) aromatic group; X1-2 = O, S, CO, SO2, CxH2xOCyH2y; (un)substituted C1-20 alkylidene, alkylene, (un)substituted divalent alicyclic group; x, y = 0-20; x + y ≠ 0; R1-10 = H, halo, (un)substituted alkyl, alkoxy, aromatic group, heterocyclic aromatic group, amino; R1-5 or R6-10 may form ring]. The device has a light-emitting layer containing I. The device showed high luminance and luminescent efficiency and long lifetime.

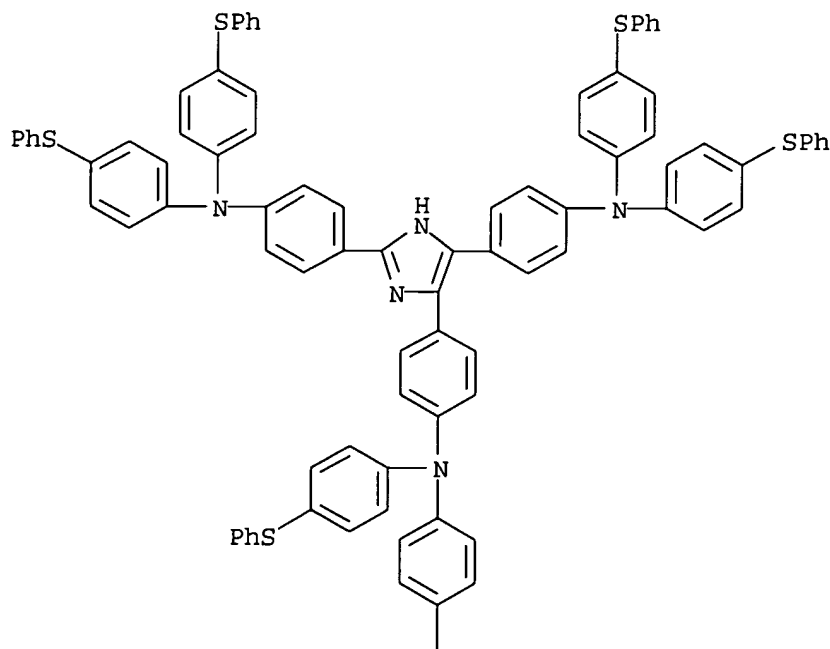
IT 216975-21-2

RL: DEV (Device component use); USES (Uses)
(aromatic amine-based emitting materials for **electroluminescent** devices)

RN 216975-21-2 HCAPLUS

CN Benzenamine, 4,4',4''-(1H-imidazole-2,4,5-triyl)tris[N,N-bis(4-(phenylthio)phenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

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SPh

L77 ANSWER 4 OF 6 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:324032 HCAPLUS
DOCUMENT NUMBER: 126:299542
TITLE: Blue-emitting materials and **electroluminescent**

INVENTOR(S) : devices containing these materials
 Dodabalapur, Ananth; Strukelj, Marko; Jordan, Rebecca
 PATENT ASSIGNEE(S) : Lucent Technologies Inc., USA
 SOURCE: Eur. Pat. Appl., 19 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 763965	A2	19970319	EP 1996-306381	19960903
EP 763965	A3	19970611		
R: DE, FR, GB				
US 5904994	A	19990518	US 1996-673864	19960702
JP 09188876	A2	19970722	JP 1996-242815	19960913
JP 3096642	B2	20001010		
JP 2000208274	A2	20000728	JP 2000-16564	19960913
PRIORITY APPLN. INFO.:			US 1995-3721P	P 19950913
			JP 1996-242815	A3 19960913

OTHER SOURCE(S): MARPAT 126:299542

AB **Electroluminescent** devices emitting at 400-650 nm are described that comprise a glass substrate, an anode, a layer of a hole transporting materials, a layer of blue-emitting material having a nonpolymeric mol. structure that comprises a five or six-membered heterocyclic moiety selected from the groups consisting of oxazole, imidazole, quinoline, and pyrazine with ≥ 3 organic substituents pendant to them and with an average crystal grain size of $\sim 1000 \text{ \AA}$, a layer of an electron-transporting material, and a cathode. The thickness of the layer of the blue-emitting material is preferably less than 600 \AA . The hole-transporting layer may be a diamine, especially bis(triphenyl)amine, and the electron transporter may be Alq. The blue-emitting materials are also claimed; a preferred material is 2-naphthyl-4,5-(4-methoxyphenyl)oxazole. The blue-emitting materials can be formed into films with advantageous properties.

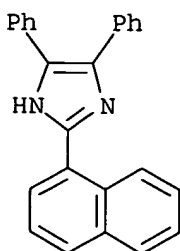
IT **1740-24-5P**

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(blue-emitting heterocyclic materials and **electroluminescent** devices containing them)

RN 1740-24-5 HCAPLUS

CN 1H-Imidazole, 2-(1-naphthalenyl)-4,5-diphenyl- (9CI) (CA INDEX NAME)



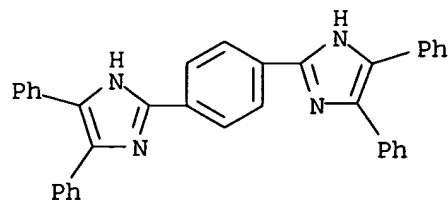
IT **4051-59-6P 189155-52-0P**

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or

engineered material use); PREP (Preparation); USES (Uses)
(blue-emitting heterocyclic materials and **electroluminescent**
devices containing them)

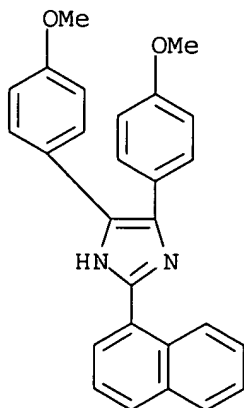
RN 4051-59-6 HCAPLUS

CN 1H-Imidazole, 2,2'-(1,4-phenylene)bis[4,5-diphenyl- (9CI) (CA INDEX NAME)



RN 189155-52-0 HCAPLUS

CN 1H-Imidazole, 4,5-bis(4-methoxyphenyl)-2-(1-naphthalenyl)- (9CI) (CA INDEX NAME)



L77 ANSWER 5 OF 6 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1992:416862 HCAPLUS

DOCUMENT NUMBER: 117:16862

TITLE: **Electroluminescent** devices

INVENTOR(S): Sakon, Yohta; Ohnuma, Teruyuki; Hashimoto, Mitsuru;
Saito, Shogo; Tsutsui, Tetsuo; Adachi, Chihaya

PATENT ASSIGNEE(S): Ricoh Co., Ltd., Japan

SOURCE: U.S., 59 pp.
CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5077142	A	19911231	US 1990-511407	19900419
PRIORITY APPLN. INFO.:			JP 1989-102057	A 19890420
			JP 1990-8006	A 19900116

OTHER SOURCE(S): MARPAT 117:16862

AB **Electroluminescent** devices comprising an anode and a cathode

sandwiching ≥ 1 organic layer(s) are described in which the organic layer(s) include a compound represented by the general formula (B)_m-(A)_n (B = selected cyclic hydrocarbons, condensed polycyclic hydrocarbons, O-containing heterocycles, N-containing heterocycles, and S-containing heterocycles; A

= benzene, biphenyl, methoxybenzene, or naphthalene groups; m = an integer in the range 1-6; and n = an integer in the range 1-6).

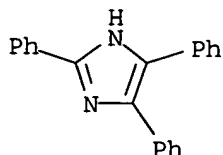
IT 484-47-9

RL: DEV (Device component use); USES (Uses)

(**electroluminescent** devices containing)

RN 484-47-9 HCAPLUS

CN 1H-Imidazole, 2,4,5-triphenyl- (9CI) (CA INDEX NAME)



L77 ANSWER 6 OF 6 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1992:165559 HCAPLUS

DOCUMENT NUMBER: 116:165559

TITLE: Reservoir sensors with optional removable reservoir cells

INVENTOR(S): Klainer, Stanley M.; Thomas, Johnny R.; Butler, Marcus S.

PATENT ASSIGNEE(S): FiberChem, Inc., USA

SOURCE: PCT Int. Appl., 82 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9200515	A1	19920109	WO 1991-US4214	19910613
W: CA, JP, KR				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE				
US 5116759	A	19920526	US 1990-544681	19900627
CA 2086000	AA	19911228	CA 1991-2086000	19910613
EP 536283	A1	19930414	EP 1991-912781	19910613
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
JP 06500627	T2	19940120	JP 1991-512087	19910613
PRIORITY APPLN. INFO.:				
			US 1990-544681	A 19900627
			US 1990-576604	A 19900831
			WO 1991-US4214	W 19910613

AB Single or multi-cell reservoir sensors with single illumination sources and ≥ 1 detectors per cell unit have an arrangement where a gaseous, vapor, or liquid sample enters the cell body and interacts with a sensing solution to detect and quantify a given substance. Entrance of the sample into the sensor is through an opening in the cell body which may be covered with a membrane to contain the sensing reagent and to presort the substances entering the cell. Reservoir cells can be used with organic, inorg., or biochem. sensing materials. A reservoir chemical sensor has a

sensor body containing a reservoir cell channel around which source and detector are positioned within the cell body. A replaceable modular reservoir cell which contains sensing solution fits snugly and removably in the channel in the sensor body. Different reservoir cells can be easily inserted and removed from the sensor body. A variety of sensors for alc., abuse drugs, organic halides, cyanide and inorg. ions are provided.

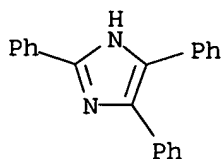
IT 484-47-9, Lophine

RL: ANST (Analytical study)

(reservoir sensor with removable cell comprising)

RN 484-47-9 HCAPLUS

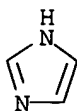
CN 1H-Imidazole, 2,4,5-triphenyl- (9CI) (CA INDEX NAME)



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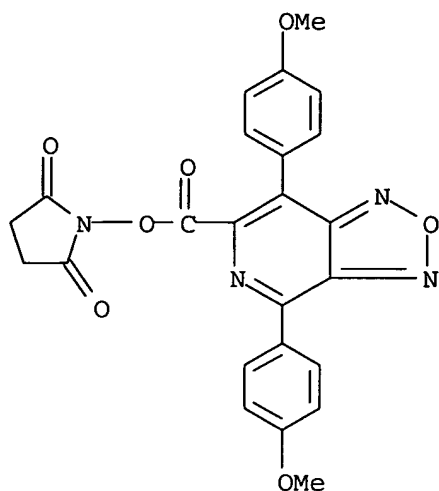
L5 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2005:589313 HCAPLUS
 DOCUMENT NUMBER: 143:93575
 TITLE: Method for detecting biomolecule using labeling dye or labeling kit
 INVENTOR(S): Isobe, Shinichiro
 PATENT ASSIGNEE(S): Mataka, Shuntaro, Japan; Takenaka, Shigeori
 SOURCE: PCT Int. Appl., 67 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005062046	A1	20050707	WO 2004-JP19215	20041222
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2005208026	A2	20050804	JP 2004-105187	20040331
US 2005181380	A1	20050818	US 2004-822775	20040413
PRIORITY APPLN. INFO.:			JP 2003-427268	A 20031224
			JP 2004-105187	A 20040331
AB A method for detecting a biomol. is provided, in which a biopolymer is reacted with an organic EL (electroluminescent) dye, and the fluorescence of the biopolymer sample labeled with the organic EL dye is measured. By using an organic EL dye as a labeling dye, a biopolymer can be detected with higher sensitivity at lower cost.				
IT 288-32-4D , Imidazole, derivative RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses) (method for detecting biomol. using electroluminescent labeling dye)				
RN 288-32-4 HCAPLUS CN 1H-Imidazole (9CI) (CA INDEX NAME)				



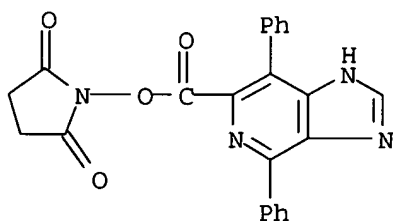
IT **855781-84-9P 857048-02-3P**
 RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
 (method for detecting biomol. using **electroluminescent** labeling dye)
 RN 855781-84-9 HCAPLUS

CN 2,5-Pyrrolidinedione, 1-[[[4,7-bis(4-methoxyphenyl)[1,2,5]oxadiazolo[3,4-c]pyridin-6-yl]carbonyl]oxy] - (9CI) (CA INDEX NAME)



RN 857048-02-3 HCAPLUS

CN 2,5-Pyrrolidinedione, 1-[[[4,7-diphenyl-1H-imidazo[4,5-c]pyridin-6-yl]carbonyl]oxy] - (9CI) (CA INDEX NAME)



IT 100-06-1 623-33-6 6066-82-6,

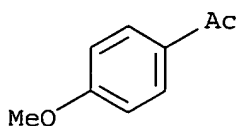
N-Hydroxysuccinimide 85731-50-6

RL: RCT (Reactant); RACT (Reactant or reagent)

(method for detecting biomol. using electroluminescent labeling dye)

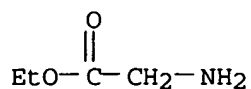
RN 100-06-1 HCAPLUS

CN Ethanone, 1-(4-methoxyphenyl) - (9CI) (CA INDEX NAME)



RN 623-33-6 HCAPLUS

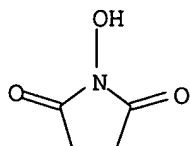
CN Glycine, ethyl ester, hydrochloride (6CI, 8CI, 9CI) (CA INDEX NAME)



● HCl

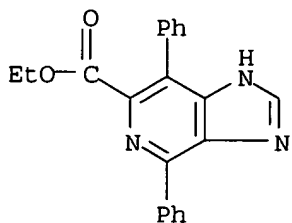
RN 6066-82-6 HCAPLUS

CN 2,5-Pyrrolidinedione, 1-hydroxy- (9CI) (CA INDEX NAME)



RN 85731-50-6 HCAPLUS

CN 1H-Imidazo[4,5-c]pyridine-6-carboxylic acid, 4,7-diphenyl-, ethyl ester (9CI) (CA INDEX NAME)



IT 40499-78-3P 65239-16-9P 855781-83-8P

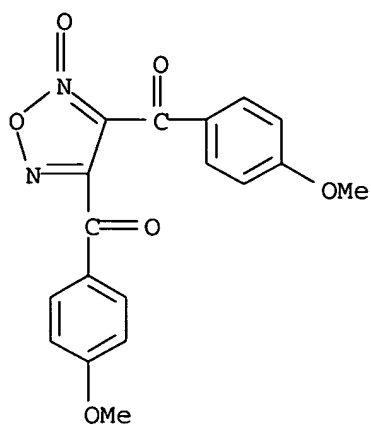
857048-00-1P 857048-01-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(method for detecting biomol. using **electroluminescent** labeling dye)

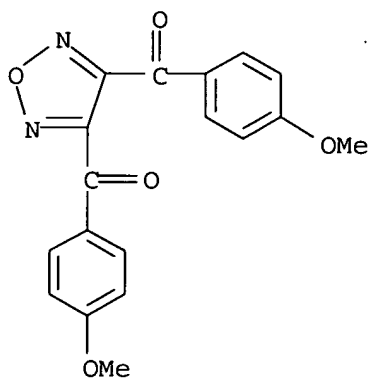
RN 40499-78-3 HCAPLUS

CN Methanone, (2-oxido-1,2,5-oxadiazole-3,4-diyl)bis[(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



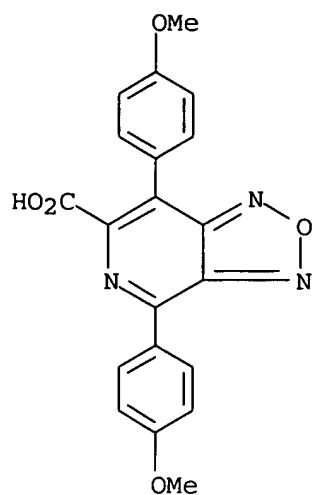
RN 65239-16-9 HCAPLUS

CN Methanone, 1,2,5-oxadiazole-3,4-diylbis[(4-methoxyphenyl)- (9CI)] (CA INDEX NAME)



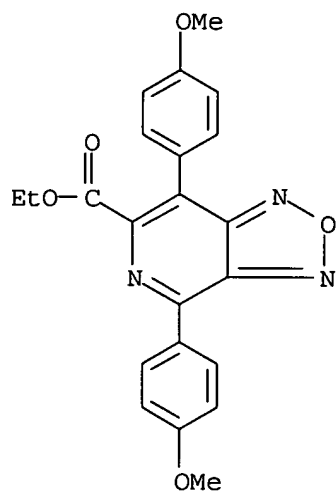
RN 855781-83-8 HCAPLUS

CN [1,2,5]Oxadiazolo[3,4-c]pyridine-6-carboxylic acid, 4,7-bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



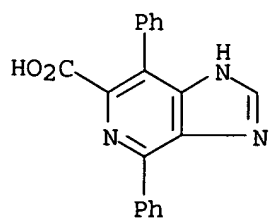
RN 857048-00-1 HCAPLUS

CN [1,2,5]Oxadiazolo[3,4-c]pyridine-6-carboxylic acid, 4,7-bis(4-methoxyphenyl)-, ethyl ester (9CI) (CA INDEX NAME)



RN 857048-01-2 HCAPLUS

CN 3H-Imidazo[4,5-c]pyridine-6-carboxylic acid, 4,7-diphenyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2005:589130 HCAPLUS
 DOCUMENT NUMBER: 143:86448
 TITLE: Single-layer organic el device
 INVENTOR(S): Isobe, Shinichiro
 PATENT ASSIGNEE(S): Mataka, Shuntaro, Japan; Takenaka, Shigeori
 SOURCE: PCT Int. Appl., 26 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005061657	A1	20050707	WO 2004-JP19211	20041222
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			

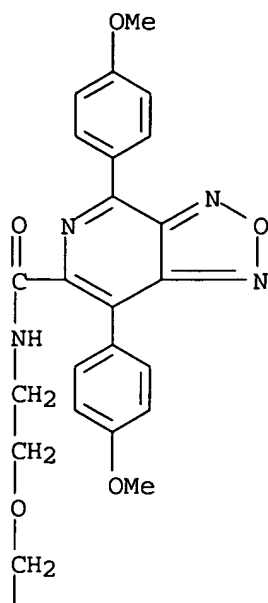
PRIORITY APPLN. INFO.: JP 2003-427275 A 20031224
 AB Disclosed is an organic EL dye enabling to provide an organic EL device which is

capable of emitting a light at a low voltage even when it has a single-layer structure. Also disclosed is an organic EL device using such an organic EL dye. The organic EL dye is represented by the general formula: (Y-L)_nX_m where x is an n-valent charge-transporting group, Y is a light-emitting group, L is a linking group bonding the charge-transporting group and the light-emitting group, and m and n are resp. an integer not less than 1.

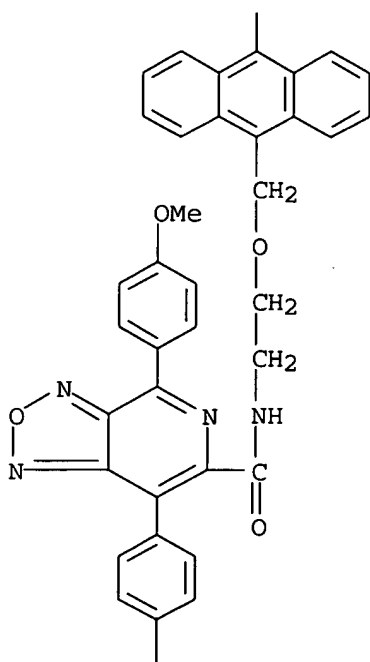
IT 855781-85-0P 855781-87-2P
 RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (single-layer organic el device)

RN 855781-85-0 HCAPLUS
 CN [1,2,5]Oxadiazolo[3,4-c]pyridine-6-carboxamide, N,N'-[9,10-anthracenediylbis[methylene(oxy-2,1-ethanediyl)]]bis[4,7-bis(4-methoxyphenyl)-(9CI) (CA INDEX NAME)

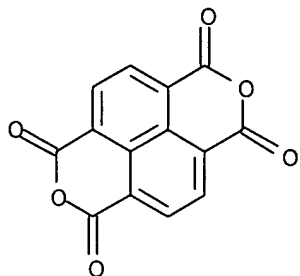
PAGE 1-A



PAGE 2-A



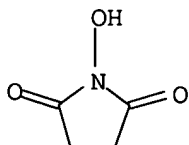
IT 81-30-1 109-83-1 6066-82-6 10387-13-0
 87980-89-0 855781-83-8
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (single-layer organic el device)
 RN 81-30-1 HCAPLUS
 CN [2]Benzopyrano[6,5,4-def][2]benzopyran-1,3,6,8-tetrone (9CI) (CA INDEX NAME)



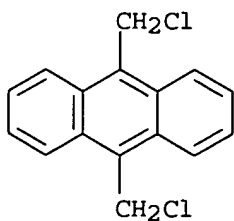
RN 109-83-1 HCAPLUS
 CN Ethanol, 2-(methylamino)- (6CI, 8CI, 9CI) (CA INDEX NAME)



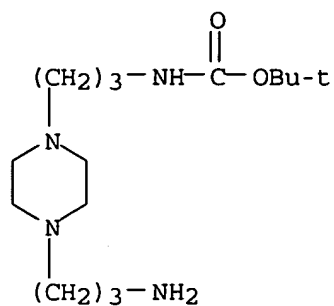
RN 6066-82-6 HCAPLUS
 CN 2,5-Pyrrolidinedione, 1-hydroxy- (9CI) (CA INDEX NAME)



RN 10387-13-0 HCAPLUS
 CN Anthracene, 9,10-bis(chloromethyl)- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

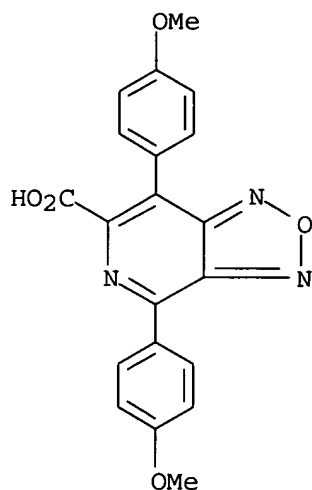


RN 87980-89-0 HCAPLUS
 CN Carbamic acid, [3-[4-(3-aminopropyl)-1-piperazinyl]propyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



RN 855781-83-8 HCAPLUS

CN [1,2,5]Oxadiazolo[3,4-c]pyridine-6-carboxylic acid, 4,7-bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



IT 855781-82-7P 855781-84-9P 855781-86-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(single-layer organic el device)

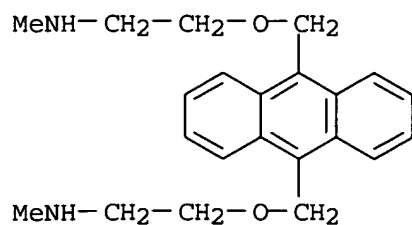
RN 855781-82-7 HCAPLUS

CN Ethanamine, 2,2'-[9,10-anthracenediylbis(methyleneoxy)]bis[N-methyl-, bis(trifluoroacetate) (9CI) (CA INDEX NAME)

CM 1

CRN 855781-81-6

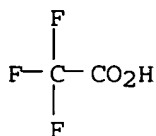
CMF C22 H28 N2 O2



CM 2

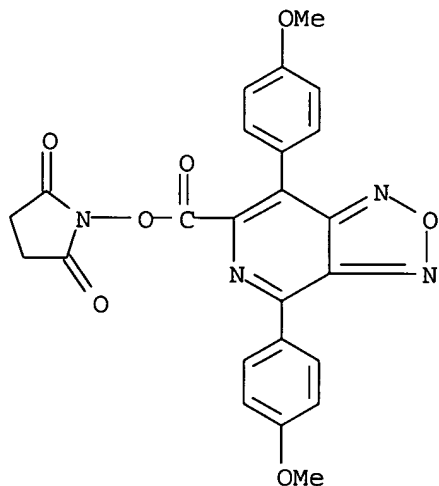
CRN 76-05-1

CMF C2 H F3 O2



RN 855781-84-9 HCAPLUS

CN 2,5-Pyrrolidinedione, 1-[[[4,7-bis(4-methoxyphenyl)[1,2,5]oxadiazolo[3,4-c]pyridin-6-yl]carbonyl]oxy] - (9CI) (CA INDEX NAME)



RN 855781-86-1 HCAPLUS

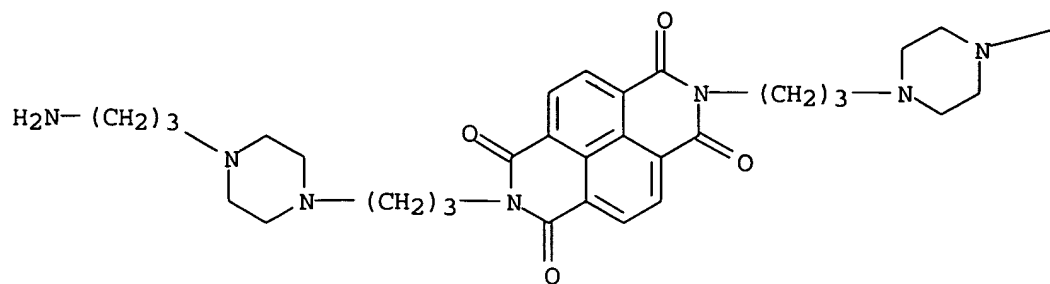
CN Benzo[1mn][3,8]phenanthroline-1,3,6,8(2H,7H)-tetrone, 2,7-bis[3-[4-(3-aminopropyl)-1-piperazinyl]propyl]-, bis(trifluoroacetate) (9CI) (CA INDEX NAME)

CM 1

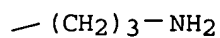
CRN 265323-32-8

CMF C34 H48 N8 O4

PAGE 1-A



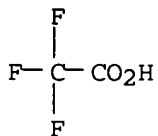
PAGE 1-B



CM 2

CRN 76-05-1

CMF C2 H F3 O2



REFERENCE COUNT:

23

THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT